## KAMPMEIER & KNUTSEN PLLC

## ATTORNEYS AT LAW

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October 8, 2015

Certified U.S. Mail - Return Receipt Requested

Managing Agent Northwest Hardwoods, Inc. 120 Industrial Way Longview, Washington 98632



Re: NOTICE OF INTENT TO SUE UNDER THE CLEAN WATER ACT AND REQUEST FOR COPY OF STORMWATER POLLUTION PREVENTION PLAN

Dear Managing Agent:

This letter is submitted on behalf of Columbia Riverkeeper, 111 Third Street, Hood River, OR 97031, (541) 387-3030. Any response or correspondence related to this matter should be directed to Brian A. Knutsen at the addressed provided below. This letter is to provide you with sixty days notice of Columbia Riverkeeper's intent to file a citizen suit against Northwest Hardwoods, Inc. ("Northwest Hardwoods") under section 505 of the Clean Water Act ("CWA"), 33 U.S.C. § 1365, for the violations described below. This letter is also a request for a copy of the complete and current stormwater pollution prevention plan ("SWPPP") required by Northwest Hardwoods' National Pollution Discharge Elimination System ("NPDES") permit.

Northwest Hardwoods was granted coverage under Washington's Industrial Stormwater General Permit ("ISGP") issued by the Washington Department of Ecology ("Ecology") on October 21, 2009, effective January 1, 2010, modified May 16, 2012, effective July 1, 2012, and which expired on January 1, 2015, under NPDES Permit No. WAR-000506 (the "2010 Permit"). Northwest Hardwoods was granted coverage under the current iteration of the ISGP, issued by Ecology on December 3, 2014, effective January 2, 2015, and set to expire on December 31, 2019, and maintains the same permit number, WAR-000506 (the "2015 Permit").

Northwest Hardwoods has violated and continues to violate the terms and conditions of the 2010 Permit and 2015 Permit (collectively, the "Permits") with respect to operations of, and discharges of stormwater and pollutants from, its facility located at or near 120 Industrial Way, Longview, Washington 98632 (the "facility"). The facility subject to this notice includes any contiguous or adjacent properties owned or operated by Northwest Hardwoods.

## I. COLUMBIA RIVERKEEPER'S COMMITMENT TO PROTECTING A FISHABLE AND SWIMMABLE COLUMBIA RIVER.

Columbia Riverkeeper's mission is to restore and protect the water quality of the Columbia River and all life connected to it, from the headwaters to the Pacific Ocean. Columbia

Riverkeeper is a non-profit organization with members who live, recreate, and work throughout the Columbia River basin, including near and downstream of Northwest Hardwoods' facility.

Threats facing the Columbia River are severe by any measure. See Columbia River Basin State of River Report for Toxics, Environmental Protection Agency, Region 10 (January 2009), available online at: http://yosemite.epa.gov/r10/ecocomm.nsf/Columbia/SoRR/. In fact, the vast majority of rivers and streams in Washington fail to meet basic state water quality standards for pollutants such as toxics and temperature. See State of Washington 303(d) List, available online at: http://www.ecy.wa.gov/programs/wq/303d/ index.html. Water quality standards are designed to protect designated uses, including aquatic life, fishing, swimming, and drinking water.

Stormwater runoff is "one of the great challenges of water pollution control" and "is a principal contributor to water quality impairment of waterbodies nationwide." *See Urban Stormwater Management in the United States*, National Research Council (Oct. 15, 2008), available online at: http://www.epa.gov/npdes/pubs/nrc\_stormwaterreport.pdf. When rain sends runoff across city streets, construction projects, and industrial facilities, the water picks up contaminants that are drained into waterways such as the Columbia River and its tributaries. These toxics accumulate in local fish, wildlife, and birds. To address this leading cause of water quality impairment, Columbia Riverkeeper invests significant time and resources in reducing pollutant loads from industrial, municipal, and construction stormwater sources.

This Notice of Intent to Sue Northwest Hardwoods is part of Columbia Riverkeeper's effort to improve water quality in the Columbia River Basin for purposes including swimming, habitat quality, and subsistence, recreational, and commercial fishing. Columbia Riverkeeper has serious concerns about the impacts of Northwest Hardwoods' operations and industrial stormwater discharges on the Columbia River. As discussed below, Northwest Hardwoods has failed to consistently monitor its stormwater pollution discharges, failed to complete and implement level response actions, and failed to adopt and implement a compliant SWPPP. Northwest Hardwoods' operations and stormwater discharges degrade water quality in the Columbia River Basin and place the health and well-being of all who use the Columbia at risk.

### II. COMPLIANCE WITH STANDARDS.

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## Violations of Water Quality Standards.

Condition S10.A of the Permits prohibits discharges that cause or contribute to violations of water quality standards. Water quality standards are the foundation of the CWA and Washington's efforts to protect clean water. In particular, water quality standards represent the U.S. Environmental Protection Agency ("EPA") and Ecology's determination, based on scientific studies, of the thresholds at which pollution starts to cause significant adverse effects on fish or other beneficial uses. For each water body in Washington, Ecology designates the "beneficial uses" that must be protected through the adoption of water quality standards.

A discharger must comply with both narrative and numeric water quality standards. WAC 173-201A-010; WAC 173-201A-510 ("No waste discharge permit can be issued that causes or contributes to a violation of water quality criteria, except as provided for in this

chapter."). Narrative water quality standards provide legal mandates that supplement the numeric standards. Furthermore, narrative water quality standards apply with equal force, even when Ecology has established numeric water quality standards. Specifically, Condition S10.A of the Permits requires that Northwest Hardwoods' discharges not cause or contribute to violations of Washington State's water quality standards.

Northwest Hardwoods discharges stormwater to a log pond that discharges to the Columbia River. Northwest Hardwoods discharges stormwater with elevated levels of turbidity and chemical oxygen demand as indicated in Table 1 below. Discharges of stormwater from the facility cause and/or contribute to violations of water quality standards for turbidity, dissolved oxygen, and aesthetic criteria and have occurred each and every day during the last five years on which there was 0.1 inch or more of precipitation, and continue to occur. These water quality standards include those set forth in WAC 173-201A-240, and -260(2). Precipitation data for the last five years are appended to this Notice of Intent to Sue and identify days when precipitation met or exceeded 0.1 inches per day.

	Stormwa	iter Samplii		ble 1 eported by l	Northwest Ha	rdwoods	
	Turbidity (BM: 25 NTU)	pH (BM: 5-9 S.U.)	Zinc (BM: 117 µg/L)	Copper (BM: 14 µg/L)	Oil Sheen (BM: no)	TSS (BM: 100 mg/L)	COD (BM: 120 mg/L)
1st Quarter 2010	47.7	6	180	7.3	No	50	213
2 <sup>nd</sup> Quarter 2010	22.7	7.2	126.45	7.5	No	24.3	95
3rd Quarter 2010							
4th Quarter 2010	31.9		12.3	2.2	No	44	103
1st Quarter 2011	12.2	7	14	ND	No	18	63.8
2 <sup>nd</sup> Quarter 2011	16.3		78		No		86
3 <sup>rd</sup> Quarter 2011							
4th Quarter 2011	22		112				198
1st Quarter 2012	27		142		No		114
2 <sup>nd</sup> Quarter 2012	19.6		119				132.5
3rd Quarter 2012							
4th Quarter 2012	44.6	6.5	138.4	7.45	No	41	281
1st Quarter 2013	51	6.0	92	6.9	No	40	147
2 <sup>nd</sup> Quarter 2013	11.8	6.0	53.6	3.2	No	12	101
3rd Quarter 2013							
4 <sup>th</sup> Quarter 2013	23.3	6.5	113	15.8	No	46	141
1 <sup>st</sup> Quarter 2014	26 / 32.4 Avg = 29.2		101	7	No	9	101
2 <sup>nd</sup> Quarter 2014	28.6 / 16.1 Avg.=22.4		97.4	7	No		111
3rd Quarter 2014							
4 <sup>th</sup> Quarter 2014	54 / 25.4 Avg.= 31.6	CA	56.2	7.1	No	CA	156 / 93.4 / 112 Avg.=120.467
1st Quarter 2015	25	6.0	58.3	3.29	No	9.0	64.2
2 <sup>nd</sup> Quarter 2015							

Note a: "BM" stands for "benchmark" and the BM values listed in Table 1 are the benchmark levels established in the Permits. Values in bold indicate benchmark exceedances.

Note b: "TSS" stands for "total suspended solids."

Note c: "COD" stands for "chemical oxygen demand."

Notce d: "ND" stands for "Non-Detect" and "CA" stands for "Consistent Attainment."

Note e: "Avg." describes the average pollutant concentration of the samples collected during a monitoring period. When more than one sample is collected during a monitoring period, the average pollutant concentrations are used to evaluate whether the permittee must complete adaptive management requirements of the Permits.

## B. Compliance with Standards.

Condition S10.C of the Permits requires Northwest Hardwoods to apply all known and reasonable methods of prevention, control and treatment ("AKART") to all discharges, including preparing and implementing an adequate SWPPP and best management practices ("BMPs"). Northwest Hardwoods has violated and continues to violate these conditions by failing to apply AKART to its discharges by, among other things, failing to implement an adequate SWPPP and BMPs as evidenced by the elevated levels of pollutants in its discharge. These violations have occurred on each and every day during the last five years and continue to occur every day.

Condition S1.A of the Permits require that all discharges and activities authorized be consistent with the terms and conditions of the permit. Northwest Hardwoods has violated this condition by discharging and acting inconsistent with the conditions of the Permits as described in this Notice of Intent to Sue.

### III. STORMWATER POLLUTION PREVENTION PLAN VIOLATIONS.

Columbia Riverkeeper hereby provides notice, based upon information and belief, that Northwest Hardwoods has not developed and implemented a SWPPP that complies with the requirements of the Permits. Northwest Hardwoods' violations of the Permits, described herein, are evidence of Northwest Hardwoods' ongoing failure to prepare and implement a SWPPP that includes adequate BMPs and that otherwise includes all of the required SWPPP components. In the following section, Columbia Riverkeeper provides notice of SWPPP violations on information and belief.

Condition S3.A.1 of the Permits requires Northwest Hardwoods to develop and implement a SWPPP as specified in the Permits. Condition S3.A.2 of the Permits requires the SWPPP to specify BMPs necessary to provide AKART and ensure that discharges do not cause or contribute to violations of water quality standards. On information and belief, Northwest Hardwoods has violated these requirements of the Permits each and every day over the last five years and continues to violate them as it has failed to prepare and/or implement a SWPPP that includes AKART and BMPs necessary to comply with state water quality standards.

Condition S3.A of the Permits requires Northwest Hardwoods to have and implement a SWPPP that is consistent with permit requirements, fully implemented as directed by permit conditions, and updated as necessary to maintain compliance with permit conditions. On

information and belief, Northwest Hardwoods has violated these requirements of the Permits each and every day over the last five years and continues to violate them because its SWPPP is not consistent with permit requirements, is not fully implemented, and has not been updated as necessary.

The SWPPP fails to satisfy the requirements of Condition S3 of the Permits because it does not adequately describe BMPs. Condition S3.B.4 of the Permits requires that the SWPPP include a description of the BMPs that are necessary for the facility to eliminate or reduce the potential to contaminate stormwater. Condition S3.B.4 of the 2015 Permit requires that the SWPPP detail how and where the selected BMPs will be implemented. Condition S3.A.3 of the Permits requires that the SWPPP include BMPs consistent with approved stormwater technical manuals or document how stormwater BMPs included in the SWPPP are demonstratively equivalent to the practices contained in the approved stormwater technical manuals, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs. Northwest Hardwoods' SWPPP does not comply with these requirements because it does not adequately describe and explain in detail the BMPs selected, does not include BMPs consistent with approved stormwater technical manuals, and does not include BMPs that are demonstratively equivalent to such BMPs with documentation of BMP adequacy.

Northwest Hardwoods' SWPPP fails to satisfy the requirements of Condition S3.B.2 of the Permits because it fails to include a facility assessment. The SWPPP fails to include an adequate facility assessment because it does not describe the industrial activities conducted at the site, the general layout of the facility including buildings and storage of raw materials, the flow of goods and materials through the facility, the regular business hours, and the seasonal variations in business hours or in industrial activities.

Northwest Hardwoods' SWPPP fails to satisfy the requirements of Condition S3.B.1 of the Permits because it does not include a site map that identifies significant features, the stormwater drainage and discharge structures, the stormwater drainage areas for each stormwater discharge point off-site, a unique identifying number for each discharge point, each sampling location with a unique identifying number, paved areas and buildings, areas of pollutant contact associated with specific industrial activities, conditionally approved non-stormwater discharges, surface water locations, areas of existing and potential soil erosion, vehicle maintenance areas, and lands and waters adjacent to the site that may be helpful in identifying discharge points or drainage routes.

Northwest Hardwoods' SWPPP fails to comply with Condition S3.B.2.b of the Permits because it does not include an inventory of industrial activities that identifies all areas associated with industrial activities that have been or may potentially be sources of pollutants. The SWPPP does not identify all areas associated with outdoor storage of materials or products, outdoor manufacturing and processing, onsite dust or particulate generating processes, on-site waste treatment, storage, or disposal, vehicle and equipment fueling, maintenance, and/or cleaning, roofs or other surfaces exposed to air emissions from a manufacturing building or a process area, and roofs or other surfaces composed of materials that may be mobilized by stormwater as required by these permit conditions.

Northwest Hardwoods' SWPPP does not comply with Condition S3.B.2.c of the Permits because it does not include an adequate inventory of materials. The SWPPP does not include an inventory of materials that lists the types of materials handled at the site that potentially may be exposed to precipitation or runoff and that could result in stormwater pollution, a short narrative for each material describing the potential for the pollutants to be present in stormwater discharge that is updated when data becomes available to verify the presence or absence of the pollutants, a narrative description of any potential sources of pollutants from past activities, materials and spills that were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to stormwater as required. The SWPPP does not include the method and location of on-site storage or disposal of such materials and a list of significant spills and significant leaks of toxic or hazardous pollutants as these permit conditions require.

Northwest Hardwoods' SWPPP does not comply with Condition S3.B.3 of the Permits because it does not identify specific individuals by name or title whose responsibilities include SWPPP development, implementation, maintenance and modification.

Condition S3.B.4 of the Permits requires that permittees include in their SWPPPs and implement certain mandatory BMPs unless site conditions render the BMP unnecessary, infeasible, or an alternative and equally effective BMP are provided. Northwest Hardwoods is in violation of this requirement because it has failed to include in its SWPPP and implement the mandatory BMPs of the Permits.

Northwest Hardwoods' SWPPP does not comply with Condition S3.B.4.b.i of the Permits because it does not include required operational source control BMPs in the following categories: good housekeeping (including definition of ongoing maintenance and cleanup of areas that may contribute pollutants to stormwater discharges, and a schedule/frequency for each housekeeping task); preventive maintenance (including BMPs to inspect and maintain stormwater drainage and treatment facilities, source controls, treatment systems, and plant equipment and systems, and the schedule/frequency for each task); spill prevention and emergency cleanup plan (including BMPs to prevent spills that can contaminate stormwater, for material handling procedures, storage requirements, cleanup equipment and procedures, and spill logs); employee training (including an overview of what is in the SWPPP, how employees make a difference in complying with the SWPPP, spill response procedures, good housekeeping, maintenance requirements, material management practices, how training will be conducted, the frequency/schedule of training, and a log of the dates on which specific employees received training); inspections and recordkeeping (including documentation of procedures to ensure compliance with permit requirements for inspections and recordkeeping, including identification of personnel who conduct inspections, provision of a tracking or follow-up procedure to ensure that a report is prepared and appropriate action taken in response to visual monitoring, definition of how Northwest Hardwoods will comply with signature and record retention requirements, certification of compliance with the SWPPP and Permit, and all inspection reports completed by Northwest Hardwoods).

Northwest Hardwoods' SWPPP does not comply with Condition S3.B.4.b.i.7 of the Permits because it does not include measures to identify and eliminate the discharge of process

wastewater, domestic wastewater, noncontact cooling water, and other illicit discharges to stormwater sewers, or to surface waters and ground waters of the state.

Northwest Hardwoods' SWPPP does not comply with Condition S3.B.4.b.ii of the Permits because it does not include required structural source control BMPs to minimize the exposure of manufacturing, processing, and material storage areas to rain, snow, snowmelt, and runoff. Northwest Hardwoods' SWPPP does not comply with Condition S3.B.4.b.iii of the Permits because it does not include treatment BMPs as required.

Northwest Hardwoods' SWPPP fails to comply with Condition S3.B.4.b.v of the Permits because it does not include BMPs to prevent the erosion of soils or other earthen materials and prevent off-site sedimentation and violations of water quality standards.

Northwest Hardwoods' SWPPP fails to satisfy the requirements of Condition S3.B.5 of the Permits because it fails to include a stormwater sampling plan as required. The SWPPP does not include a sampling plan that identifies points of discharge to surface waters, storm sewers, or discrete ground water infiltration locations, documents why each discharge point is not sampled, identifies each sampling point by its unique identifying number, identifies staff responsible for conducting stormwater sampling, specifies procedures for sampling collection and handling, specifies procedures for sending samples to the a laboratory, identifies parameters for analysis, holding times and preservatives, laboratory quantization levels, and analytical methods, and that specifies the procedure for submitting the results to Ecology.

### IV. MONITORING AND REPORTING VIOLATIONS.

## A. Failure to Collect Quarterly Samples.

Condition S4.B of the Permits requires Northwest Hardwoods to collect a sample of its stormwater discharge once during every calendar quarter. Conditions S3.B.5.b and S4.B.2.c of the Permits require Northwest Hardwoods to collect stormwater samples at each distinct point of discharge offsite except for substantially identical outfalls, in which case only one of the substantially identical outfalls must be sampled. These conditions set forth sample collection criteria, but require the collection of a sample even if the criteria cannot be met.

Northwest Hardwoods violated these requirements by failing to collect stormwater samples in compliance with these requirements from any of its discharge points during the third quarter of 2011, the third quarter of 2012, the third quarter of 2013, the third quarter of 2014, and the second quarter of 2015.

Northwest Hardwoods has further violated and continues to violate these conditions because it does not sample each distinct point of discharge off-site each quarter. These violations have occurred and continue to occur each and every quarter over the last five years that Northwest Hardwoods was and is required to sample its stormwater discharges, including the quarters in which it collected stormwater discharge samples from some, but not all, points of discharge. These violations will continue until Northwest Hardwoods commences monitoring all distinct points of discharge.

## B. Failure to Analyze Quarterly Samples.

Conditions S5.A.1 and S5.B of the Permits requires Northwest Hardwoods to analyze stormwater samples collected quarterly for turbidity, pH, total copper, total zinc, oil sheen, chemical oxygen demand, and total suspended solids. Northwest Hardwoods violated these conditions by failing to analyze stormwater samples as indicated in Table 2 below:

	Pollutant Parameters Not Analyzed
Monitoring Quarter	Parameters Not Analyzed
2 <sup>nd</sup> Quarter 2011	pH, total copper, and total suspended solids
3 <sup>rd</sup> Quarter 2011	turbidity, pH, total copper, total zinc, oil sheen, chemical oxygen demand, and total suspended solids
4 <sup>th</sup> Quarter 2011	pH, total copper, oil sheen, and total suspended solids
1st Quarter 2012	pH, total copper, and total suspended solids
2 <sup>nd</sup> Quarter 2012	pH, total copper, oil sheen, and total suspended soilds
3 <sup>rd</sup> Quarter 2012	turbidity, pH, total copper, total zinc, oil sheen, chemical oxygen demand, and total suspended solids
3 <sup>rd</sup> Quarter 2013	turbidity, pH, total copper, total zinc, oil sheen, chemical oxygen demand, and total suspended solids
1st Quarter 2014	pH
2 <sup>nd</sup> Quarter 2014	pH and total suspended solids
3 <sup>rd</sup> Quarter 2014	turbidity, pH, total copper, total zinc, oil sheen, chemical oxygen demand, and total suspended solids
2 <sup>nd</sup> Quarter 2015	turbidity, pH, total copper, total zinc, oil sheen, chemical oxygen demand, and total suspended solids

## C. Failure to Timely Submit Discharge Monitoring Reports.

Condition S9.A of the Permits require Northwest Hardwoods to use DMR forms provided or approved by Ecology to summarize, report and submit monitoring data to Ecology. For each monitoring period (calendar quarter) a DMR must be completed and submitted to Ecology not later than 45 days after the end of the monitoring period. Northwest Hardwoods has violated these conditions by failing to submit a DMR within the time prescribed for the third quarter of 2013.

## D. Failure to Comply with Visual Monitoring Requirements.

Condition S7.A of the Permits requires that monthly visual inspections be conducted at the facility by qualified personnel. Each inspection is to include observations made at stormwater sampling locations and areas where stormwater associated with industrial activity is discharged, observations for the presence of floating materials, visible oil sheen, discoloration,

turbidity, odor, etc. in the stormwater discharges, observations for the presence of illicit discharges, a verification that the descriptions of potential pollutant sources required by the permit are accurate, a verification that the site map in the SWPPP reflects current conditions, and an assessment of all BMPs that have been implemented (noting the effectiveness of the BMPs inspected, the locations of BMPs that need maintenance, the reason maintenance is needed and a schedule for maintenance, and locations where additional or different BMPs are needed).

Condition S7.C of the Permits requires that Northwest Hardwoods record the results of each inspection in an inspection report or checklist that is maintained on-site and that documents the observations, verifications, and assessments required. The report/checklist must include the time and date of the inspection, the locations inspected, a statement that, in the judgment of the person conducting the inspection and the responsible corporate officer, the facility is either in compliance or out of compliance with the SWPPP and the Permit, a summary report and schedule of implementation of the remedial actions that Northwest Hardwoods plans to take if the site inspection indicates that the facility is out of compliance, the name, title, signature and certification of the person conducting the facility inspection, and a certification and signature of the responsible corporate officer or a duly authorized representative.

Northwest Hardwoods is in violation of these requirements of Condition S7 of the Permits because, during the last five years, it has failed to conduct each of the requisite visual monitoring and inspections, failed to prepare and maintain the requisite inspection reports or checklists, and failed to make the requisite certifications and summaries.

## V. CORRECTIVE ACTION VIOLATIONS.

## A. Violations of the Level One Requirements of the Permits.

Condition S8.B of the Permits requires Northwest Hardwoods take specified actions, called a "Level One Corrective Action," each time quarterly stormwater sample results exceed a benchmark value or are outside the benchmark range for pH. Condition S8.A of the 2015 Permit requires that Northwest Hardwoods implement any Level One Corrective Action required by the 2010 Permit.

As described by Condition S8.B of the Permits, a Level One Corrective Action requires that Northwest Hardwoods: (1) review the SWPPP for the facility and ensure that it fully complies with Condition S3 of the Permits and contains the correct BMPs from the applicable Stormwater Management Manual; (2) make appropriate revisions to the SWPPP to include additional operational source control BMPs with the goal of achieving the applicable benchmark values in future discharges and sign and certify the revised SWPPP in accordance with the Permits; and (3) summarize the Level One Corrective Action in the Annual Report required under Condition S9.B of the Permits. Condition S8.B of the Permits requires that Northwest Hardwoods implement the revised SWPPP as soon as possible, and no later than the DMR due date for the quarter the benchmark was exceeded.

Conditions S5.A and S5.B of the Permits establish the following applicable benchmarks: turbidity 25 NTU; pH 5 – 9 SU; total copper 14  $\mu$ g/L; total zinc 117  $\mu$ g/L; chemical oxygen demand 120 mg/L; and total suspend solids 100 mg/L.

Northwest Hardwoods has violated the requirements of the Permits described above by failing to conduct a Level One Corrective Action in accordance with permit conditions, including the required review, revision and certification of the SWPPP, the required implementation of additional BMPs, and the required summarization in the annual report each time during the last five years that quarterly stormwater sampling results were greater than a benchmark or outside the benchmark range for pH, including the benchmark excursions listed in Table 1 in Section II.A of this letter after the 3<sup>rd</sup> Quarter of 2010.

These benchmark excursions are based upon information currently available to Columbia Riverkeeper from Ecology's publicly available records. Columbia Riverkeeper provides notice of its intent to sue Northwest Hardwoods for failing to comply with all of the Level One Corrective Action requirements described above by failing to conduct a Level One Corrective Action in accordance with permit conditions, including the required review, revision and certification of the SWPPP, the required implementation of additional BMPs, and the required summarization in the annual report each time during the last five year that its quarterly stormwater sampling results were greater than a benchmark or outside the benchmark range for pH, including the benchmark excursions listed in Table 1 above after the 3<sup>rd</sup> Quarter of 2010.

## B. Violations of the Level Two Requirements of the Permits.

Condition S8.C of the Permits requires Northwest Hardwoods to take specified actions, called a "Level Two Corrective Action," each time quarterly stormwater sample results exceed an applicable benchmark value or are outside the benchmark range for pH for any two quarters during a calendar year. Condition S8.A of the 2015 Permit requires that Northwest Hardwoods implement any Level Two Corrective Action required by the 2010 Permit.

As described by Condition S8.C of the Permits, a Level Two Corrective Action requires Northwest Hardwoods: (1) review the SWPPP for the facility and ensure that it fully complies with Condition S3 of the Permits; (2) make appropriate revisions to the SWPPP to include additional structural source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges and sign and certify the revised SWPPP in accordance with Condition S3 of the Permits; and (3) summarize the Level Two Corrective Action (planned or taken) in the Annual Report required under Condition S9.B of the Permits. Condition S8.C.4 of the Permits requires that Northwest Hardwoods implement the revised SWPPP according to Condition S3 of the Permits and the applicable stormwater management manual as soon as possible, but no later than August 31st of the following year.

The Permits establish the benchmarks applicable to Northwest Hardwoods described in Section V.A of this Notice of Intent to Sue.

Northwest Hardwoods has violated the requirements of the Permits described above by failing to conduct a Level Two Corrective Action in accordance with permit conditions,

including the required review, revision and certification of the SWPPP, the required implementation of additional BMPs to ensure that all points of discharge from the facility meet benchmarks (not just the sampled point of discharge), including additional structural source control BMPs, and the required summarization in the annual report each time during the last five years its quarterly stormwater sampling results were greater than a benchmark or outside the benchmark range for pH for any two quarters during a calendar year. As indicated in Table 1 in Section II.A of this letter, these violations include, but are not limited to, Northwest Hardwoods' failure to fulfill these obligations for turbidity and zinc triggered by its stormwater sampling during the calendar year of 2010, for themical oxygen demand triggered by its stormwater sampling during the calendar year of 2013, and for turbidity triggered by its stormwater sampling during the calendar year of 2014.

The benchmark excursions identified in Table 1 of this Notice of Intent to Sue are based upon information currently available to Columbia Riverkeeper from Ecology's publicly available records. Columbia Riverkeeper provides notice of its intent to sue Northwest Hardwoods for failing to comply with all of the Level Two Corrective Action requirements each and every time quarterly stormwater sample results exceeded an applicable benchmark value or were outside the benchmark range for pH for any two quarters during a calendar year, including any such excursions that are not reflected in Table 1 above, during the last five years.

## C. Violations of the Level Three Requirements of the Permits.

Condition S8.D of the Permits requires Northwest Hardwoods take specified actions, called a "Level Three Corrective Action," each time quarterly stormwater sample results exceed an applicable benchmark value or are outside the benchmark range for pH for any three quarters during a calendar year. Condition S8.A of the 2015 Permit requires that Northwest Hardwoods implement any Level Three Corrective Action required by the 2010 Permit.

As described by Condition S8.D of the 2010 Permit, a Level Three Corrective Action requires that Northwest Hardwoods: (1) review the SWPPP for the facility and ensure that it fully complies with Condition S3 of the 2010 Permit; (2) make appropriate revisions to the SWPPP to include additional treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges and additional operational and/or structural source control BMPs if necessary for proper function and maintenance of treatment BMPs, and sign and certify the revised SWPPP in accordance with Condition S3.A.6 of the 2010 Permit; and (3) summarize the Level Three Corrective Action (planned or taken) in the Annual Report required under Condition S9.B of the 2010 Permit, including information on how monitoring, assessment, or evaluation information was (or will be) used to determine whether existing treatment BMPs will be modified/enhanced, or it new/additional treatment BMPs will be installed. Condition S8.D.2.b of the 2010 Permit requires that a licensed professional engineer, geologist, hydrogeologist, of certified professional in storm water quality must design and stamp the portion of the SWPPP that addresses stormwater treatment structures or processes.

Condition S8.D.3 of the 2010 Permit requires that, before installing BMPs that require the site-specific design or sizing of structures, equipment, or processes to collect, convey, treat,

reclaim, or dispose of industrial stormwater, Northwest Hardwoods submit an engineering report, plans, and specifications, and an operations and maintenance manual to Ecology for review in accordance with chapter 173-204 of the Washington Administrative Code. The engineering report must be submitted no later than the May 15 prior to the Level Three Corrective Action Deadline. The plans and specifications and the operations and maintenance manual must be submitted to Ecology at least 30 days before construction/installation.

Condition S8.D.5 of the 2010 Permit requires that Northwest Hardwoods fully implement the revised SWPPP according to Condition S3 of the 2010 Permit and the applicable stormwater management manual as soon as possible, but no later than September 30th of the following year.

The Permits establish the benchmarks applicable to Northwest Hardwoods described in Section V.A of this Notice of Intent to Sue.

Northwest Hardwoods has violated the requirements of the Permits described above by failing to conduct a Level Three Corrective Action in accordance with permit conditions, including the required review, revision and certification of the SWPPP, including the requirement to have a specified professional design and stamp the portion of the SWPPP pertaining to treatment, the required implementation of additional BMPs, including additional treatment BMPs to ensure that all points of discharge from the facility meet benchmarks (not just the sampled point of discharge), the required submission of an engineering report, plans, specifications, and an operations and maintenance plan, and the required summarization in the annual report each time during the last five years its quarterly stormwater sampling results were greater than a benchmark or outside the benchmark range for pH for any three quarters during a calendar year. As indicated in Table 1 in Section II.A of this letter, these violations include, but are not limited to, Northwest Hardwoods' failure to fulfill these obligations for zinc triggered by its stormwater sampling during calendar year of 2012.

The benchmark excursions identified in Table 1 of this Notice of Intent to Sue are based upon information currently available to Columbia Riverkeeper from Ecology's publicly available records. Columbia Riverkeeper provides notice of its intent to sue Northwest Hardwoods for failing to comply with all of the Level Three Corrective Action requirements each and every time quarterly stormwater sample results exceeded an applicable benchmark value or were outside the benchmark range for pH for any three quarters during a calendar year, including any such excursions that are not reflected in Table 1 above, during the last five years.

## VI. VIOLATIONS OF THE ANNUAL REPORT REQUIREMENTS.

Condition S9.B of the Permits requires Northwest Hardwoods to submit an accurate and complete annual report to Ecology no later than May 15 of each year. The annual report must include corrective action documentation as required in Condition S8.B through S8.D. If a corrective action is not yet completed at the time of submission of the annual report, Northwest Hardwoods must describe the status of any outstanding corrective action. Specific information to be included in the annual report is identification of the conditions triggering the need for corrective action, description of the problem and identification of dates discovered, summary of any Level 1, 2, or 3 corrective actions completed during the previous calendar year, including the

dates corrective actions were completed, and a description of the status of any Level 2 or 3 corrective actions triggered during the previous calendar year, including identification of the date Northwest Hardwoods expects to complete the corrective actions. Northwest Hardwoods has violated this condition by failing to include all of the required information in the annual reports it submitted for 2010, 2011, 2012, 2013, and 2014.

The annual report submitted by Northwest Hardwoods for 2010 does not include all required information. For example, the report does not describe the conditions triggering the Level One Corrective Actions for chemical oxygen demand, turbidity, and zinc, the conditions triggering the Level Two Corrective Actions for turbidity and zinc, or the problems and the dates they were discovered. The report also does not include the dates when certain corrective actions were completed, such as dredging retention ponds and adding filtering materials to a culvert connecting retention ponds.

The annual report submitted by Northwest Hardwoods for 2011 does not include all required information. For example, the report does not describe the conditions triggering the Level One Corrective Action for chemical oxygen demand or the problems and the dates they were discovered. The report also does not describe the status of the Level Two Corrective Actions triggered in 2010 for turbidity and zinc.

The annual report submitted by Northwest Hardwoods for 2012 does not include all required information. For example, the report does not describe the conditions triggering Level One Corrective Actions for turbidity, zinc, and chemical oxygen demand, the conditions triggering Level Two Corrective Actions for turbidity and chemical oxygen demand, the conditions triggering a Level Three Corrective Action for zinc, or the problems and the dates they were discovered. The report does not describe any additional structural BMPs to be implemented as part of a Level Two Corrective Actions for chemical oxygen demand or turbidity. The report does not describe any additional stormwater treatment measures implemented as part of the Level Three Corrective Action triggered for zinc.

The annual report submitted by Northwest Hardwoods for 2013 does not include all required information. For example, the annual report does not describe the conditions triggering the Level One Corrective Actions for turbidity, copper, and chemical oxygen demand or the conditions triggering a Level Two Corrective Action for chemical oxygen demand. The report does not describe the status of the Level Two Corrective Actions for turbidity and chemical oxygen demand triggered in 2012 or the Level Three Corrective Action for zinc triggered in 2012. The report inaccurately indicates that the benchmark for chemical oxygen demand was only exceeded once in 2013, fails to report that a Level Two Corrective Action for chemical oxygen demand was triggered in 2013, and it does not describe any additional structural BMPs to be implemented as part of a Level Two Corrective Action for chemical oxygen demand. The report fails to report the exceedance of the copper benchmark in 2013 and does not describe any actions taken as part of a Level One Corrective Action for copper.

The annual report submitted by Northwest Hardwoods for 2014 does not include all required information. For example, the annual report does not describe the conditions triggering the Level One Corrective Actions for turbidity and chemical oxygen demand, the conditions

triggering a Level Two Corrective Action for turbidity, or the problems and the dates they were discovered. The report does not describe the status of the Level Two Corrective Action for chemical oxygen demand triggered in 2013. The report inaccurately indicates that the facility only exceeded the turbidity benchmark once in 2014, instead of twice, and that the facility exceeded the chemical oxygen demand twice in 2014, instead of once. The report does not describe any additional structural BMPs to be implemented as part of the Level Two Corrective Action for turbidity triggered in 2014.

## VII. VIOLATIONS OF THE RECORDKEEPING REQUIREMENTS.

### A. Failure to Record Information.

Condition S4.B.3 of the Permits requires Northwest Hardwoods record and retain specified information for each stormwater sample taken, including the sample date and time, a notation describing if Northwest Hardwoods collected the sample within the first 30 minutes of stormwater discharge event, an explanation of why Northwest Hardwoods could not collect a sample within the first 30 minutes of a stormwater discharge event, the sample location, method of sampling and of preservation, and the individual performing the sampling. Upon information and belief, Northwest Hardwoods is in violation of these conditions as it has not recorded each of these specified items for each sample taken during the last five years.

## B. Failure to Retain Records.

Condition S9.C of the Permits requires Northwest Hardwoods to retain for a minimum of five years a copy of the Permits, a copy of Northwest Hardwoods' permit coverage letters, records of all sampling information, inspection reports including required documentation, any other documentation of compliance with permit requirements, all equipment calibration records, all BMP maintenance records, all original recordings for continuous sampling instrumentation, copies of all laboratory results, copies of all required reports, and records of all data used to complete the application for the Permits. Upon information and belief, Northwest Hardwoods is in violation of these conditions because it has failed to retain records of such information, reports, and other documentation during the last five years.

## VIII. REQUEST FOR SWPPP.

Pursuant to Condition S9.F of the 2015 Permit, Columbia Riverkeeper hereby requests that Northwest Hardwoods provide a copy of, or access to, its SWPPP complete with all incorporated plans, monitoring reports, checklists, and training and inspection logs. The copy of the SWPPP and any other communications about this request should be directed to Brian A. Knutsen at the address provided below.

Should Northwest Hardwoods fail to provide the requested complete copy of, or access to, its SWPPP as required by Condition S9.F of the 2015 Permit, it will be in violation of that condition, which violation shall also be subject to this Notice of Intent to Sue and any ensuing lawsuit.

## IX. PARTY GIVING NOTICE OF INTENT TO SUE.

The full name, address, and telephone number of the party giving notice is:

Columbia Riverkeeper 111 Third Street Hood River, Oregon 97031 (541) 387-3030

## X. ATTORNEYS REPRESENTING RIVERKEEPER.

The attorneys representing Columbia Riverkeeper in this matter are:

Brian A. Knutsen Kampmeier & Knutsen, PLLC 833 S.E. Main Street, Mail Box 318 Portland, Oregon 97214 (503) 841-6515 brian@kampmeierknutsen.com

Miles Johnson, Clean Water Attorney Columbia Riverkeeper 111 Third Street Hood River, Oregon 97031 (541) 490-0487 (Licensed in Oregon)

## XI. CONCLUSION.

The above-described violations reflect those indicated by the information currently available to Columbia Riverkeeper. These violations are ongoing. Columbia Riverkeeper intends to sue for all violations, including those yet to be uncovered and those committed after the date of this Notice of Intent to Sue.

Under Section 309(d) of the CWA, 33 U.S.C. § 1319(d), each of the above-described violations subjects the violator to a penalty of up to \$37,500 per day for each violation. In addition to civil penalties, Columbia Riverkeeper will seek injunctive relief to prevent further violations under Sections 505(a) and (d) of the CWA, 33 U.S.C. § 1365(a) and (d), and such other relief as is permitted by law. Also, Section 505(d) of the CWA, 33 USC § 1365(d), permits prevailing parties to recover costs, including attorney's fees.

Columbia Riverkeeper believes that this NOTICE OF INTENT TO SUE sufficiently states grounds for filing suit. Columbia Riverkeeper intends, at the close of the 60-day notice period, or shortly thereafter, to file a citizen suit against Northwest Hardwoods under Section 505(a) of the Clean Water Act for the violations described herein.

Columbia Riverkeeper is willing to discuss effective remedies for the violations described in this letter and settlement terms during the 60-day notice period. If you wish to pursue such discussions in the absence of litigation, we suggest that you initiate those discussions within ten (10) days of receiving this notice so that a meeting can be arranged and so that negotiations may be completed promptly. We do not intend to delay the filing of a complaint if discussions are continuing when the notice period ends.

Very truly yours,

KAMPMEIER & KNUTSEN, PLLC

Sy. Dian A. W. Jan

cc: Regina McCarthy, Administrator, U.S. EPA
Dennis McLerran, Region 10 Administrator, U.S. EPA
Maia Bellon, Director, Washington Department of Ecology
Registered Agent, Corporation Service Company

## CERTIFICATE OF SERVICE

I, Brian A. Knutsen, declare under penalty of perjury of the laws of Washington and the United States that I am counsel for Columbia Riverkeeper and that on October 8, 2015, I caused copies of the foregoing Notice of Intent to Sue Under the Clean Water Act and Request for Stormwater Pollution Prevention Plan to be served on the following by depositing it with the U.S. Postal Service, postage prepaid, in the manner specified:

## Via Certified Mail - Return Receipt Requested:

Managing Agent Northwest Hardwoods, Inc. 120 Industrial Way Longview, Washington 98632

Administrator Regina A. McCarthy U.S. Environmental Protection Agency William Jefferson Clinton Building 1200 Pennsylvania Ave., N.W., Mail Code 1101A Washington, D.C. 20460

Regional Administrator Dennis J. McLerran U.S. Environmental Protection Agency, Region 10 1200 Sixth Avenue, Mail Code RA-210 Seattle, WA 98101

Director Maia D. Bellon Washington Department of Ecology P.O. Box 47600 Olympia, WA 98504-7600

Corporation Service Company, Registered Agent 300 Deschutes Way SW, Suite 304 Tumwater, WA 98501

Brian A. Knutsen

# **APPENDIX**

Precipitation Data for Kelso Southwest Regional Airport (Approximately One Mile from Northwest Hardwood's Facility)

#### U.S. Department of Commerce

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature			Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
r e		M			hrs. ending observation time	at O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hall, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2010	10	1		1														
	2010	10	2																
	2010	10	3																
	2010	10	4																
	2010	10	5																
	2010	10	6																
	2010	10	7																
	2010	10	8		I														
	2010	10	9														1		
	2010	10	10		I.		0.30												
	2010	10	11				0.00									- 20-			
	2010	10	12				0.00												
	2010	10	13				0.00												
	2010	10	14		1		0.00												
	2010	10	15				0.01												
	2010	10	16				0.00												
	2010	10	17				0.00												
	2010	10	18				0.00												
	2010	10	19				0.00												
	2010	10	20				0100												
	2010	10	21		I		0.00												
	2010	10	22				0.00												
	2010	10	23																
	2010	10	24													7		-	
1	2010		25																
- 1	2010		26													7		0.77	
1	2010	10	27																
1	2010	10	28				0.00	7											
1	2010	10	29																
	2010		30		7														
	1623030		31																
			Summary				0.31		0										

The "flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

## Record of Climatological Observations These data are quality controlled and may not be

National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

2007					Temperature (	F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e		м			nrs. ending bservation time	at O b	2	24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth		ю	8 in depth	
m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2010	11	1				0.00												
	2010	11	2	i															
	2010	11	3				0.00												
	2010	11	4				0.00				0								
	2010	11	5				0.00												
	2010	11	6				0.05		0.0		0								
	2010	11	7				0.37		0.0	X									
	2010	11	8						0.0		0								
	2010	11	9																
	2010	11	10																
	2010	11	11						1.7	1									
	2010	11	12												1				
	2010	11	13																
	2010	11	14																
	2010	11.	15												1 1 1 7 7 1				
	2010	11	16																
	2010	11	17		77														
	2010	11	18																
	2010	11	19				0.11										Ì		
	2010	11	20				0.21												
	2010	11	21				0.11									y la company			
	2010	11	22				0.09												
	2010	11	23				0.63												Ĵ
	2010	11	24				0.00												
	2010	11	25				0.00												
	2010	11	26				0.01												
	2010	11	27				0.20												
	2010	11	28				0.10												
	2010	11	29				0.00												6 6
	2010	11	30				0.22							1 1					
	CANAL STREET		Summary				2.10		0.0										- 5-200-19

The '\*' flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

#### U.S. Department of Commerce

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

## **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

-					Temperature (	F)		Pre	cipitation(se	e **)		Evapo	oration				perature (F)		
P r e					hrs. ending bservation time	al O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2010	12	1				0.42		0.0		0								
	2010	12	2				0.01									7			
	2010	12	3				0.01					0.0							
	2010	12	4	197			0.00												
	2010	12	5				0.00									<b>†</b>			
	2010	12	6				0.00									1			
	2010	12	7				0.02												
	2010	12	8				0.68		$\vdash$										
	2010	12	9				0.47												
	2010	12	10				0.73		1 1	1000							1		
	2010	12	11	E	1		0.17												
	2010	12	12				0.95		1										
	2010	12	13				0.25												
	2010	12	14				0.21												
	2010	12	15				0,46												
	2010	12	16				0.20												
	2010	12	17				0.00		1 1										
	2010	12	18																
	2010	12	19				0.35												
	2010	12	20				0,10												
	2010	12	21				0.20								7	71			
	2010	12	22				0.00												
	2010	12	23																
	2010	12	24																
	2010	12	25				0.13												
	2010	12	26				0.19												
	2010	12	27				0.70												
	2010	12	28				1.04												
	2010	12	29				0.62												
	2010	12	30				0.06			7.2.7									
	2010	12	31				0.00												
- 53			Summary				7.97		0.0										

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

## **Record of Climatological Observations**

National Oceanic & Atmospheric Administration

These data are quality controlled and may not be
National Environmental Satellite, Data, and Information Service

identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

		T	T	T	Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P e					hrs. ending observation time	at O b		24 Hour Am at obser	ounts ending ation time	Á	At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2011	1	1				0.00												
	2011	1	2				0.00												
	2011	1	3				0.00												
	2011	1	4				0.00												
	2011	1	5				0.00												
	2011	1	6				0.30												
	2011	1	7				0.28												
	2011	1	8				0.08												
	2011	1	9				0.06												
	2011	1	10				0.04												
	2011	1	11				0.00												
	2011	1	12				0.05												
	2011	1	13				1.27												
	2011	1	14				0.09												
	2011	1	15				0.13	10072											
	2011	1	16				1.55												
	2011	1	17				1.25												
	2011	1	18				0.12		0.0		0								
	2011	1	19				0.25		0.0		0								
	2011	1	20				0.00												-
	2011	1	21				0.04												
	2011	1	22				0.32												
	2011	1	23				0.00												
	2011	1	24				0.07												_
	2011	1	25				0.00												
	2011	1	26				0.00												
	2011	1	27				0.00												
	2011	1	28				0.00												
	2011	1	29				0.06												
	2011	1	30				0.09										,		
	2011	1	31				0.00												
			Summary				6.05		0.0										

The "" flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Р					Temperature			Pre	cipitation(se	e **)		Evapo	ration				perature (F)		
r e		м			hrs. ending observation time	at O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	ji
i m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
200150-5	2011	2	1				0.00												
	2011	2	2				0.00									_			_
	2011	2	3				0.00												
	2011	2	4				0.00										-		_
	2011	2	5	7			0.08								100			-	
	2011	2	6				0.02												
	2011	2	7				0.18												
	2011	2	8				0.19										_		
	2011	2	9				0.02												
	2011	2	10				0.00				-								
	2011	2	11				0.00												
	2011	2	12				0.00		0.0		0						-		-
	2011	2	13				0.37		0.0		0								
	2011	2	14				0.12		0.0		0								
	2011	2	15				0.26												
	2011	2	16				0.30												
	2011	2	17				0.14				0								
	2011	2	18				0.06												
	2011	2	19				0.26												
	2011	2	20				0.00												
	2011	2	21				0.00												
	2011	2	22				0.09												
	2011	2	23				0.23												
	2011	2	24				0.20												
	2011	2	25		4		0.05												
	2011	2	26				0.00												
	2011	2	27				0.00												
	2011	2	28				1,06												
		-/	Summary				3.63		0.0										

The ""flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value falled one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column Indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	ecipitation(se	e **)		Evapo	oration			Soil Temp	perature (F)		
P r e		м		24 at c	hrs. ending observation time	at O b		24 Hour Ar at obser	mounts ending rvation time	9	At Obs Time				4 in depth			8 in depth	1
m i n a r	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	Flag	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Мах.	Min.
	2011	3	1				1.10												
	2011	3	2				0.27												
	2011	3	3				0.09												
	2011	3	4				0.07												
	2011	3	5				0.17												
	2011	3	6				0.01												
	2011	3	7				0.00												
	2011	3	8				0.07			13.									
	2011	3	9				0.10		1										
	2011	3	10				0.91												
	2011	3	11				0.14												
	2011	3	12				0.00												
	2011	3	13				0.31												
	2011	3	14				0.63												
	2011	3	15	7			0.20												
	2011	3	16				0.17												
	2011	3	17				0.15												
	2011	3	18				0.02												
	2011	3	19				0.21												
	2011	3	20				0.00												
	2011	3	21				0.11					- 4							
	2011	3	22				0.05												
	2011	3	23				0.01												
	2011	3	24				0.03									/= =====			
	2011	3	25			-													
	2011	3	26				0.15												
	2011	3	27				0.41												
1111	2011	3	28			í l	0.10												
	2011	3	29				0.06												
	2011	3	30				0.52												
	2011	3	31				0.60												
			Summary				6.66		0										

The "\*" flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above Indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

### U.S. Department of Commerce

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	oration			Soil Temp	erature (F)		
P r e		м			hrs, ending observation time	at O b	2	4 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	K.
m i n a r y	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2011	4	1				0.27									1			
	2011	4	2				0.00									-		-	
	2011	4	3				0.06												
	2011	4	4		1	/A 1	0.12												
	2011	4	5				0.60												
	2011	4	6				0.30				1								11
	2011	4	7				0.06				1								
	2011	4	8				0.00				1					1			
	2011	4	9		1		0.00												
179	2011	4	10				0.05												
	2011	4	11				0.13	15.1											
	2011	4	12				0.13		0.0		0								
	2011	4	13				0.00		0.0		0								
	2011	4	14				0.16												
	2011	4	15				0.36												
	2011	4	16				0.32												
	2011	4	17				0.00												
	2011	4	18				0.00												
	2011	4	19	7.5			0.04												
	2011	4	20				0.00												
	2011	4	21				0.00												
	2011	4	22				0.01												
	2011	4	23				0.00												
	2011	4	24				0.02												
	2011	4	25				0.39												
	2011	4	26				0.77												
	2011	4	27				0.09												
	2011	4	28				0.17												
	2011	4	29		1		0.36												
	2011	4	30				0.00												
			Summary				4.41		0.0		1								

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Record of Climatological Observations
These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

101-	T				Temperature (	F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
r e		120		24 I at o	hrs. ending observation time	at O b		24 Hour An at obser	ounts ending ation time		At Obs Time				4 in depth			8 in depth	
m i n a r	Y e a r	M o n t	D a y	Max.	Min.	e r v a t	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2011	5	1				0.00												
	2011	5	2				0.00								i =				
	2011	5	3				0.26												
	2011	5	4				0.00												
	2011	5	5	5			0.03												
	2011	5	6				0.12												
	2011	5	7				0.36		0.0		0								
	2011	5	8				0.06		0.0		0								
	2011	5	9				0.12		0.0		0								
	2011	5	10				0.00												
	2011	5	11				0.00												
	2011	5	12				0.33												
	2011	5	13				0.00												
	2011	5	14	(i			0.00												
	2011	5	15				0.18												
	2011	5	16				0.52												
	2011	5	17				0.01					1 1 1 1 1 1 1	1.00						
	2011	5	18				0.00												
	2011	5	19				0.00				1								
	2011	5	20	20			0.00												
	2011	5	21				0.01												
	2011	5	22				0.01												
	2011	5	23				0.03												
	2011	5	24				0.02												
	2011	5	25				0.00												
	2011	5	26				0.18												
	2011	5	27				0.22												
	2011	5	28				0.56												
	2011	5	29				0.02												
	2011	5	30				0.00												
	2011	5	31				0.00						DE						
			Summary				3.04		0.0										

The "flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

#### U.S. Department of Commerce

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation; Unknown

					Temperature			Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P e l		м			hrs, ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F   a g	Snow, ice pellets, hall, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2011	6	1				0.10							_	1 - 2			-	
	2011	6	2				0.01										1		
	2011	6	3				0.45												
	2011	6	4				0.00	771 112			-					<del> </del>			
	2011	6	5				0.00												
	2011	6	6				0.00									<del> </del>			
	2011	6	7				0.00												
	2011	6	8		12.	†	0.01										ļ .	_	
	2011	6	9				0,00										1		
	2011	6	10				0.00						- N - X -				_		_
	2011	6	11	110010			0.00												
	2011	6	12				0,00												
	2011	6	13				0.04		1										
	2011	6	14				0.02								7				
	2011	6	15				0.00												
	2011	6	16				0.02		1				-						
	2011	6	17				0.00						-						
	2011	6	18		1		0.04												
	2011	6	19				0.17				1								
onus estate	2011	6	20		T.		0.00												
	2011	6	21				0.00												
	2011	6	22				0.00												
	2011	6	23				0.00												
	2011	6	24				0.03												
	2011	6	25				0.00												
	2011	6	26				0.00												
	2011	6	27				0.00												
	2011	6	28				0.07												MICH
	2011	6	29				0.01												77-1
	2011	6	30				0.11												
		•	Summary				1.08		0										

The '\*' flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column Indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

**Record of Climatological Observations** 

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

1		T	T	T T	JS GHCND:USW0 Temperature (			Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
				at of	rs. ending bservation time	at O b	1		nounts ending vation time		At Obs Time				4 in depth			8 in depth	
1	Y e a r	M o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, meited snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Mir
	2011	7	1				0.03												
	2011	7	2				0.00												
	2011	7	3				0.00												
	2011	7	4				0.00												
	2011	7	5				0.00												_
	2011	7	6				0.00												
	2011	7	7				0.00												
	2011	7	8				0.00												
	2011	7	9				0.00			V									
	2011	7	10				0.00												
	2011	7	11				0.00												
	2011	7	12				0.01												
	2011	7	13				0.29												
	2011	7	14				0.20												
	2011	7	15				0.01												
	2011	7	16				0.31												
	2011	7	17				0.30												
	2011	7	18				0.07												
	2011	7	19				0.00									g			
	2011	7	20				0.00												
	2011	7	21	1			0.00		4										
	2011	7	22				0.03												
	2011	7	23				0.00												
	2011	7	24				0.00												
	2011	7	25				0.00												
	2011	7	26				0.00												
	2011	7	27				0.00			7: 2									
	2011	7	28				0.00												
_	2011	7	29				0.00							ľ					
	2011	7	30				0.00												
	2011	100	04				0.00		_		1			1					

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

1.25

2011

Summary

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above Indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

## U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

**Record of Climatological Observations** 

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

P					Temperature			Pre	cipitation(se	e **)		Evapo	oration			Soil Temp	perature (F)		
r e	2000	M			hrs, ending observation time	at O b		24 Hour Am at observ	nounts ending vation time		At Obs Time				4 in depth			8 in depth	ž.
m i n a r y	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Graund Cover (see *)	Max.	Min.
	2011	8	1		1		0.00												
	2011	8	2		-		0.00												
	2011	8	3				0.00												
	2011	8	4				0.00												
	2011	8	5				0.00												
	2011	8	6				0.00									-			
	2011	8	7				0.00												
	2011	8	8				0,00										t -		
	2011	8	9				0,00												
HEARY-C	2011	8	10				0.00											7 - 7	
	2011	8	11				0.00												
	2011	8	12				0,00												-
	2011	8	13				0.00												
	2011	8	14				0.00												
	2011	8	15				0.00												
	2011	8	16				0.00												
	2011	8	17				0.00												
	2011	8	18				0.00												
	2011	8	19				0.00												779011
	2011	8	20				0.00												
	2011	8	21				0.00	1122					271.00-11-72						
	2011	8	22				0.00				100000000000000000000000000000000000000								
	2011	8	23				0.00												7
	2011	8	24				0.00												
	2011	8	25				0.00					200							
	2011	8	26				0.00												
	2011	8	27		1		0.00												
	2011	8	28		1		0.00										1		
	2011	8	29				0.00												
	2011	8	30				0.00												11.
	2011	8	31				0.00												

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value falled one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

## **Record of Climatological Observations**

National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Centers for Environmental Information

151 Patton Avenue

Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223 Soil Temperature (F) Precipitation(see \*\*) Temperature (F) Evaporation 24 hrs. ending at At Obs 24 Hour Amounts ending 4 in depth 8 in depth 0 at observation Time at observation time b e time S D 24 Hour 0 е Amount Wind m n a Snow, ice of Evap. Rain, Snow, ice Movement . Ground Ground У V pellets, (in) pellets, melted Min. Cover Max. Min. n hail, ice on (mi) Cover Max. Max. Min. 8 snow, etc. a hail a a ground (see \*) (see \*) (in) g (in) g (in) 0 n 2011 0.00 0.00 2011 0.00 2011 3 0.00 4 2011 0.00 2011 5 0.00 2011 0.00 2011 2011 0.00 8 0.00 2011 9 2011 10 0.00 2011 11 0.00 0.00 2011 12 2011 13 0.00 0.00 2011 14 0.00 2011 15 0.01 2011 16 17 0.00 2011 0.17 2011 18 0.42 2011 19 2011 20 0.00 2011 21 0.00 2011 22 0.00 0.00 2011 23 2011 24 0.00 25 0.05 2011 2011 26 0.08 0.18 2011 27 2011 28 0.00 29 0.00 2011 9

0.00

0.91

2011

30

Summary

The "flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

#### U.S. Department of Commerce

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

## **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation; Unknown

2.0	P r				Temperature			Pre	cipitation(see	2 **)		Evapo	ration			Soil Temp	perature (F)		
r e		м			hrs. ending observation time	at O b	2	4 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth	0)		8 in depth	
i m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2011	10	1			- "	0.00												
	2011	10	2				0.00							25			-		
20,710	2011	10	3				0.12				_								
	2011	10	4				0.02									-			
	2011	10	5			1	0.22		1								1		
	2011	10	6				0.15				1								-
	2011	10	7		-		0.00									-	-		
	2011	10	8				0.05		1		-					_	-		-
	2011	10	9			-	0.04		t		-						-		
	2011	10	10			-	0.00				1						-		
	2011	10	11		-		0.38		+	111111111111111111111111111111111111111	-						-		-
	2011	10	12	<b>†</b>			0.70		<del>                                     </del>		<u> </u>						-		
	2011	10	13				0.00		1	W	-	-							
	2011	10	14				0.00		<del>                                     </del>										
- 50	2011	10	15				0.01		1		1								
	2011	10	16				0.00		1		1		-						
	2011	10	17				0.00		1		1			-					
	2011	10	18				0.00		1		1								
	2011	10	19			1	0.00		1 1		1			100					
	2011	10	20				0.00		1		1								
	2011	10	21				0.06		1		1				-				
	2011	10	22				0.06		1		-								
	2011	10	23				0.22												
	2011	10	24				0.00	-	1		-								
	2011	10	25				0.00			-									
	2011	10	26				0.00				100								
	2011	10	27				0.00												
	2011	10	28				0.00	-		_						-			
	2011	10	29				0.15												
	2011	10	30				0.03				1								
	2011	10	31				0.01		1 1										

The \*\* flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

## Record of Climatological Observations These data are quality controlled and may not be

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

These data are quality controlled and may not identical to the original observations.

Generated on 10/07/2015

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

National Centers for Environmental Information

151 Patton Avenue

Asheville, North Carolina 28801

	T				Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P e					hrs. ending observation time	at O b	2		nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F l a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Мах.	Min.	Ground Cover (see *)	Max.	Min.
	2011	11	1				0.00						100						
	2011	11	2				0.00								Tec 1				
	2011	11	3				0.50												
	2011	11	4				0.00				41								
	2011	11	5				0.00												
	2011	11	6				0.04												
	2011	11	7				0.00												
	2011	11	8				0.00												
	2011	11	9				0.00												
	2011	11	10	100			0.00												
	2011	11	11				0.00												
	2011	11	12				0.35												
	2011	11	13				0.41												
	2011	11	14				0.37											Pillurane es	
	2011	11	15				0.14												
	2011	11	16				0.00												
	2011	11	17				0.39												
	2011	11	18				0.44												N-
	2011	11	19				0.10												
	2011	11	20				0.02	77.1-10.											
	2011	11	21				0.00												
	2011	11	22																
	2011	11	23				1.23												
	2011	11	24																
	2011	11	25				0.67												
	2011	11	26				0.01						-						
	2011	11	27				0.00												
	2011	11	28				0.32					11.11							Į.
	2011	11	29				0.00												
	2011	11	30				0.11												
	-	-	Summary				5.10		0										

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

U.S. Department of Commerce
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## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Р					Temperature			Pro	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		117
e					hrs. ending observation time	at O b	3	24 Hour Ar at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	ă.
i m i n a r	Y e a r	M o n t	D a y	Мах.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2011	12	1				0.00									+	-		
	2011	12	2				0.00				-				-		-		-
	2011	12	3				0.00				_					_	-		-
	2011	12	4				0.00	77			1					_	-		
	2011	12	5				0.00		1		_								
	2011	12	6				0.00				_			-	-				
	2011	12	7				0.00				+								
	2011	12	8				0.00										-		
	2011	12	9				0.00							-					
	2011	12	10				0.00				_								
	2011	12	11		7		0.00										-		
	2011	12	12				0.00									-	-		
	2011	12	13				0.00												
	2011	12	14				0.00									_			
	2011	12	15				0.05												
	2011	12	16		T.		0.02												
	2011	12	17				0.00							411722					
	2011	12	18				0.00											_	
	2011	12	19				0.01				7			-					
	2011	12	20				0.00												
	2011	12	21				0.00		1 1										
	2011	12	22				0.00												
	2011	12	23		1=		0.00												
	2011	12	24				0.00												
	2011	12	25				0.00												
	2011	12	26				0.36												
	2011	12	27				0.09							757					
	2011	12	28				0.59						11						
	2011	12	29				0.82												
	2011	12	30				0.79												
	2011	12	31				0.21												
			Summary				2.94	125	0										

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value falled one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

## Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

				Temperature	(F)	Precipitation(see **)					Evapo	ration	Soil Temperature (F)						
r e					hrs. ending observation time	at O b			ounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2012	1	1				0.00												
	2012	1	2				0.00												
	2012	1	3				0.01		0.0		0								
	2012	1	4				0.00		0.0		0								
	2012	1	5			c	0.14		0.0		0								
	2012	1	6				0.09		0.0		0								
	2012	1	7				0.05												
	2012	1	8				0.00												
	2012	1	9				0.00												
	2012	1	10				0.23											1	
	2012	1	11				0.00												
	2012	1	12				0.00												
	2012	1	13				0.00												
	2012	1	14				0.00									403			
	2012	1	15				0.12											Z	
	2012	1	16				0.12						7. 17.						
	2012	1	17				0.08												
	2012	1	18				0.49												
	2012	1	19											The same					
	2012	1	20				1.16												
	2012	1	21				0.12									100			
	2012	1	22				0.20												
	2012	1	23				0.29												
	2012	1	24				0.00												
	2012	1	25				0.64												
	2012	1	26				0.12		0.0		0			, No.					
	2012	1	27				0.01		0.0		0								
	2012	1	28				0.00		0.0		0								
	2012	1	29				0.00		0.0		0				V.				
	2012	1	30	1	1		0.57		0.0		0								
	2012	1	31		1		0.01												
			Summary				4.45		0.0							250	775.		

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value falled one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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## U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

## Record of Climatological Observations

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

William					Temperature	(F)		Pr	ecipitation(se	e **)		Evapo	oration			Soil Tem	perature (F)		
r e		м			hrs. ending observation time	at O b	2	24 Hour A at obse	mounts ending		At Obs Time				4 in depth			8 in depth	
m i n a r	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	Flag	Snow, ice pellets, hail (in)	F - a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	2	1				0.03												
	2012	2	2				0.02						n-1						
	2012	2	3		II.		0.00					TI.							
	2012	2	4				0.00	200	1										
	2012	2	5.		77	1	0.00												
	2012	2	6			1	0.00									_			1
	2012	2	7				0.00												
	2012	2	8				0.00				1							-	
	2012	2	9				0.07		1										
	2012	2	10				0.20												
	2012	2	11			1	0.03												
	2012	2	12				0.00												
	2012	2	13				0.14		1										
	2012	2	14		I		0.06												
	2012	2	15		1		0.07												
	2012	2	16				0.00		1										-
	2012	2	17				0.15		1					SER ELE					
	2012	2	18				0.68		0.0		0								
	2012	2	19				0.35		0.0		0								
	2012	2	20						0.0		0								
	2012	2	21				0.10		0.0	200	0					777 200			
	2012	2	22				1.26		0.0		0								
	2012	2	23				0.26												
	2012	2	24		f		0.01												
	2012	2	25				0.37												
	2012	2	26				0.43				10.00								
	2012	2	27				0.16												
	2012	2	28				0.00												
	2012	2	29				0.29												
	-		Summary				4.68		0.0								-	-	

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

## **Record of Climatological Observations**

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National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

CASCO DE USE LUIR						Pre	cipitation(se	e **)		Evapo	ration	Soil Temperature (F)							
r e					hrs. ending observation time	at O b		24 Hour Am at observ	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F l a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	3	1				0.67					100							
	2012	3	2				0.05												
	2012	3	3				0.00												
	2012	3	4				0.03												
	2012	3	5				0.00				11								
	2012	3	6				0.34												
	2012	3	7				0.01												
	2012	3	8				0.00												
	2012	3	9				0.00								G				
	2012	3	10				0.11												
	2012	3	11				0.17												
	2012	3	12				0.17												
	2012	3	13				1.46												
	2012	3	14				0.10												
	2012	3	15				0.78												
	2012	3	16				0.95												
	2012	3	17				0.58												
	2012	3	18				0.25												
	2012	3	19				0.22												
	2012	3	20				0.07												
	2012	3	21				0.40									/25			
	2012	3	22				0.44												
	2012	3	23				0.25												
	2012	3	24				0.00												
	2012	3	25				0.00												
	2012	3	26				0.24												
	2012	3	27				0.02							The sale					
	2012	3	28				0.16												
	2012	3	29				0.26												
	2012	3	30				1,95												
	2012	3	31				0.32												
			Summary	1			10.00		0						•				

The "" flags in Preliminary indicate the data have not completed processing and qualifycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Elev: 20 ft. Lat: 46.117" N Lon: 122.894° W

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Generated on 10/07/2015

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature			Pre	cipitation(se	e **)		Evapo	ration			Soil Tem	perature (F)		
P r e		м			hrs. ending bservation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m I n a r y	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F - a g	Snow, ice pellets, hall, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
- 2	2012	4	1				0.40				1								
12	2012	4	2				0.18										1		3 1
12	2012	4	3				0.00		1		1								
12	2012	4	4				0.04										77.		
12	2012	4	5			4										<del>                                     </del>	1		
2	2012	4	6													<u> </u>			
12	2012	4	7						1 1										
2	2012	4	8				0.00												
- 2	2012	4	9			100	0,00	174											
2	2012	4	10				0.00												
2	2012	4	11				0.01												
2	2012	4	12				0.39												
2	2012	4	13				0.03												
2	2012	4	14				0.00												
2	2012	4	15				0.00		1										
2	2012	4	16		1		0.21												
2	2012	4	17				0.11												
2	2012	4	18				0.06												
2	2012	4	19				0.07									<b>†</b>			
2	2012	4	20				0.26												
2	2012	4	21				0.03												
2	2012	4	22				0.00												
2	2012	4	23				0.00												
2	2012	4	24			-	0.00										7-22		
2	2012	4	25				0.00												
2	2012	4	26				0.38								1 XX				
2	2012	4	27		i i		0.20					7				<b>†</b>			
2	2012	4	28				0.15												
2	2012	4	29		T		0.00	111 01-											
2	2012	4	30				0.30												
			Summary	75 2 75 77			2.82		0					( )					

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
r e					nrs. ending bservation time	at O b	12	24 Hour An at obser	nounts ending vation time	n:	At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, metted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	5	1				0.27												
	2012	5	2				0.42												
	2012	5	3				0.46		0.0		0								
	2012	5	4				0.29		0.0		0				22222				
	2012	5	5				0.12		0.0		0								
	2012	5	6				0.00												
	2012	5	7				0.00												
	2012	5	8				0.00												
	2012	5	9				0.00												
	2012	5	10				0.00		0.0	100	0								
	2012	5	11				0.00		0.0		0								
	2012	5	12				0.00											0	
	2012	5	13				0.00												
	2012	5	14				0.00										0	A ST COL	
	2012	5	15				0.00									0			S
	2012	5	16				0.00												
	2012	5	17				0.00												
	2012	5	18				0.00												
	2012	5	19				0.00												
	2012	5	20				0.00												
	2012	5	21				0.23					THE ST							
	2012	5	22				0.67												
	2012	5	23				0.33												
	2012	5	24				0.21												-
	2012	5	25				0.42												
	2012	5	26				0.02												
	2012	5	27				0.00												
	2012	5	28				0.00												
	2012	5	29				0.00												
	2012	5	30				0.00												
	2012	5	31				0.00												
		•	Summary				3.44		0.0						10		-1/1		

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Failow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

_					Temperature			Pro	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
r e		м			hrs. ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	di
m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	Flag	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	6	1				0.14		0.0		0						1		
	2012	6	2				0.31										+	-	
	2012	6	3				0.00		1 1										
	2012	6	4				0.06					-							
	2012	6	5				0.66												-
	2012	6	6				0.09									-			
	2012	6	7				0.07												
	2012	6	8				0.50												
	2012	6	9				0.68												
	2012	6	10				0.00	3.5									-		
	2012	6	11				0.00												
	2012	6	12				0.00									1			
	2012	6	13													1			
	2012	6	14				0.00		1		1					<b></b>			
	2012	6	15				0.00									<del>                                     </del>			
	2012	6	16				0.00		1					-			<b> </b>		
	2012	6	17				0.00												
1	2012	6	18				0.03									<u> </u>			
- 1	2012	6	19				0.03												
	2012	6	20				0.27												
	2012	6	21		127		0.00												
	2012	6	22				0.00												
1	2012	6	23				0.60												
1	2012	6	24				0.72												
	2012	6	25			1	0.19		1128 22										
- 2	2012	6	26				0.00												
1	2012	6	27				0.06								9272	200000000000000000000000000000000000000			
1	2012	6	28				0.00												
2	2012	6	29				0.02												
12	2012	6	30				0.01				1								
			Summary				4.44		0.0										

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

These data are quality controlled and may not be
National Environmental Satellite, Data, and Information Service

identical to the original observations.

Generated on 10/07/2015

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

National Centers for Environmental Information

151 Patton Avenue

	T				Temperature (	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e		200			hrs. ending observation time	at O b			ounts ending ration time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	7	1				0.04												
	2012	7	2				0.00												
	2012	7	3				0.03		0.0		0								
	2012	7	4				0.05		0.0		0					72			
	2012	7	5				0.00		0.0		0								
	2012	7	6				0.00		0.0		0								
	2012	7	7				0.00												
	2012	7	8				0.00												
	2012	7	9				0.00		0.0		0								
	2012	7	10				0.00		0.0	- 110	0								
	2012	7	11				0.00												
	2012	7	12				0.00												
	2012	7	13				0.00		0.0		0								
	2012	7	14				0.00												
	2012	7	15				0.00							1,525					
	2012	7	16				0.00												
	2012	7	17				0.00												
	2012	7	18				0.00												
	2012	7	19				0.00									-			
	2012	7	20				0.15												
	2012	7	21				0.04												
	2012	7	22				0.00												
	2012	7	23				0.00												
	2012	7	24				0.00												
	2012	7	25				0.00											State of the latest state	
	2012	7	26				0.00		- 17							Lezcon			
	2012	7	27				0.00												
	2012	7	28				0.00												
77.	2012	7	29				0.00												
	2012	7	30				0.00												
	2012	7	31				0.00												3
			Summary				0.31		0.0							1834			

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

**Record of Climatological Observations** 

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature			Pre	cipitation(se	e **)		Evapo	ration			Soil Tem	perature (F)		
r e					hrs. ending observation time	at O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth	- 1985 		8 in depth	19.
i m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	8	1				0.00												
	2012	8	2				0.00												110
	2012	8	3				0.00												
	2012	8	4				0.00							7 1 2 2 2 2					-
	2012	8	5				0.00												
	2012	8	6				0.00												
	2012	8	7				0.00												
	2012	8	8				0.00				1								
	2012	8	9				0.00												
	2012	8	10				0.00		1										
	2012	8	11				0.00				1								
	2012	8	12				0.00												
	2012	8	13				0.00				-								
	2012	8	14				0.00		0.0		0								
- 1 - 1 - 1	2012	8	15				0.00		0.0		0								
	2012	8	16				0.00												
	2012	8	17				0.00								(2) In (2)				
	2012	8	18				0.00		0.0		0								
	2012	8	19				0.00		0.0		0								
	2012	8	20				0.00		0.0		0								
	2012	8	21				0.00		0.0		0								
	2012	8	22				0.00		0.0		0								
	2012	8	23				0.00												
	2012	8	24				0.00												
	2012	8	25				0,00												
	2012	8	26				0,00												
	2012	8	27																
	2012	8	28																
	2012	8	29																
	2012	8	30																
	2012	8	31				0.00												
	A	-	Summary				0.00		0.0										

The "flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value falled one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

	T				Temperature	(F)		Pro	ecipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P r e					nrs. ending bservation time	at O b	2		nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	9	1				0.00												
	2012	9	2				0.00												
	2012	9	3				0.00												
	2012	9	4				0.00				1225								
	2012	9	5				0.00												
	2012	9	6				0.00		0.0		0								
	2012	9	7				0.00		0.0		0								
	2012	9	8				0.00												
	2012	9	9				0.00												
	2012	9	10				0.03												
	2012	9	11				0.00												
	2012	9	12				0.00												
	2012	9	13				0.00												
	2012	9	14				0.00												
	2012	9	15				0.00												
	2012	9	16				0.00												
	2012	9	17				0.00										7		
	2012	9	18				0.00												
	2012	9	19				0.00												
	2012	9	20			F-1871	0.00												
	2012	9	21				0.00			7									
	2012	9	22	1 1 1 1 1 1 1 1 1 1			0.00		100										
	2012	9	23				0.00												
	2012	9	24			7 A	0.00					= 361							
	2012	9	25				0.00												
_	2012	9	26	1		<u> </u>	0.00					100							
	2012	9	27				0.00		0.0		0								
	2012	9	28				0.00		0.0		0								
	2012	9	29				0.00		0.0		0								
	2012	9	30				0.00												
		1-	Summary	1	1		0.03		0.0										

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Fiag or the Snow Fiag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Record of Climatological Observations These data are quality controlled and may not be

identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

					Temperature	(F)		Pre	ecipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		11
e L		м			hrs. ending bbservation time	at O b	2	4 Hour Ar at obser	nounts ending rvation time		At Obs Time				4 in depth			8 in depth	
m i n a r	e a r	o n t h	D a y	Max.	Min.	e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Мах.	Min.	Ground Cover (see *)	Max.	Min.
	2012	10	1		T		0.00												
	2012	10	2				0.00												
	2012	10	3				0.00												
	2012	10	4				0.00			0.5									
	2012	10	5				0.00												
	2012	10	6				0.00												
	2012	10	7				0.00												
	2012	10	8				0.00				1								
	2012	10	9				0.00												
	2012	10	10		1		0.00		1 1										
	2012	10	11				0.00				0 10 may 1								
	2012	10	12				0.00												
75.000	2012	10	13		7		0.60							(					
	2012	10	14				0.26												
	2012	10	15				0.45												
	2012	10	16				0.43		0.0		0								
	2012	10	17				0.05												
	2012	10	18				0.00			-									
	2012	10	19				0.53												
	2012	10	20				0.50				7 7 7 7								
	2012	10	21				0.21												
	2012	10	22				0.09					T.							
	2012	10	23				0.30												
	2012	10	24				0.19			9				- ESTERIO					
	2012	10	25				0.03												
	2012	10	26				0.04												
	2012	10	27				0.01												
	2012	10	28				0.95												7
	2012	10	29				0.97												
	2012	10	30				0.42												
	2012	10	31				0.47												
			Summary				6.50		0.0										

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

## Record of Climatological Observations These data are quality controlled and may not be

National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

These data are quality controlled and may not b identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

	T	T			Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e					nrs. ending bservation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	M o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	11	1				0.84												
	2012	11	2																
	2012	11	3				0.22												
	2012	11	4				0.03												
	2012	11	5				0.00												
	2012	11	6				0.00		0.0		0								
	2012	11	7				0.02		0.0		0					-			
	2012	11	8				0.00		0.0		0								
	2012	11	9				0.00		0.0		0								1
	2012	11	10				0.00												
	2012	11	11	-			0.00							*					
	2012	11	12				0.51												
	2012	11	13				0.02				1								
	2012	11	14				0.02		1										27
	2012	11	15	_		7	0.00		0.0		0								
	2012	11	16		. 18		0.00		0.0		0								
	2012	11	17				0.02												
	2012	11	18	1			0.40		1		1								
	2012	11	19				1.56												
	2012	11	20	1			0.80												
	2012	11	21				0.43												
	2012	11	22	<b>†</b>			0.22												
	2012	11	23				0.00												
	2012	11	24				0.68												
	2012	11	25				0.00												
	2012	11	26		7		0.00												
	2012	11	27				0.00												
	2012	11	28				0.00					-							
	2012	11	29			-	0.01		0.0		0								
	2012	11	30	_			0.19		0.0		0					1	1		
	12012	1.0	Summary	-			5.97		0.0		+								

The '\*' flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>&</sup>quot;Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above Indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

# U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

#### Record of Climatological Observations

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature			Pro	ecipitation(see	e **)		Evapo	ration			Soil Temp	perature (F)		
P e -		м			hrs. ending bservation time	at O b	2	4 Hour Ar at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2012	12	1				1.52		0.0		0								_
	2012	12	2				0.57		0.0		0								
	2012	12	3				0.24		0.0		0								
	2012	12	4	1			0.38				T				77.55				
	2012	12	5				0.52												
	2012	12	6				0.01		0.0		0								
	2012	12	7				0.21		0.0		0								
	2012	12	8				0.10				+								-
	2012	12	9		17		0.04		1	-	1								-
	2012	12	10				0.01		1										_
	2012	12	11				0.00		1							-	<b>†</b>		-
	2012	12	12				0.27		1										
	2012	12	13				0.08		1				STEEL -				<del> </del>		-
	2012	12	14				0.23		1										
	2012	12	15		1 - 12 - 12 - 12 - 12		0.07				100								_
	2012	12	16		171		0.49		1		1								
	2012	12	17				1.17		1										_
	2012	12	18				0.45		1										
	2012	12	19				0.23		1										
	2012	12	20				0.98		1		1								
	2012	12	21				0.51		1	== 1	1							7	
	2012	12	22				0.08		1	-	_		-						
	2012	12	23				0.21		0.0		0							C.	
	2012	12	24				0.42	=====	0.0		0							-	
	2012	12	25				0.10		0.0		0								
100	2012	12	26				0.41		0.0		0								
	2012	12	27				0.12		0.0		0								
	2012	12	28				0.01												
	2012	12	29				0.00		1									-	
	2012	12	30				0.01											-	
	2012	12	31				0.00		+ +		1							4	
			Summary				9.44		0.0	_	1								

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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Elev: 20 ft, Lat: 46.117° N Lon: 122.894° W

## Record of Climatological Observations These data are quality controlled and may not be

National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e		100			nrs. ending bservation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min,
	2013	1	1				0.08												
	2013	1	2				0.00												
	2013	1	3				0.00												
	2013	1	4				0.00												
	2013	1	5				0.00	77 45.00											
	2013	1	6				0.00												
	2013	1	7				0.31												
	2013	1	8				0.46											-	
	2013	1	9				0.26	7							1 1				
	2013	1	10				0.59	8.6											
	2013	1	11				0.04												
	2013	1	12				0.00												
	2013	1	13				0.00										-		
	2013	1	14				0.00												
	2013	1	15				0.01												
	2013	1	16				0.00												
	2013	1	17				0.00										-		
	2013	1	18				0.00												
	2013	1	19				0.00												
	2013	1	20				0.00												
	2013	1	21																
	2013	1	22				0.00												
	2013	1	23				0.00												
	2013	1	24				0.07		0.0		0						-		
	2013	1	25				0.20												
	2013	1	26			A.	0.05												
	2013	1	27				0.09								-				-
	2013	1	28				0.18												
	2013	1	29				0.75												
	2013	1	30				0.30												
	2013	1	31				0.28 3.67		0.0										

The "flags in Preliminary Indicate the data have not completed processing and qualifycontrol and may not be Identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122,894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Р					Temperature	-		Pre	cipitation(se	e **)		Evapo	ration				perature (F)		1
r e	201	м			hrs. ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r	e a r	o n t h	D a y	Max.	Min.	e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2013	2	1				0.04		1							-			
	2013	2	2				0.00				+						-		-
	2013	2	3				0.00								_				-
	2013	2	4				0.00										_		
	2013	2	5				0.00		1				-						-
	2013	2	6				0.08						-				-		_
	2013	2	7				0.09												
	2013	2	8				0.00							-					_
	2013	2	9		V		0.00				_						_		
	2013	2	10				0.00			2 19							-		
	2013	2	11				0.00												-
	2013	2	12				0.03		0.0		0								-
	2013	2	13				0.03		0.0		0						-		_
	2013	2	14				0.00		0.0		0							00	-
	2013	2	15				0.00		0.0		0								
	2013	2	16				0.00										-		
	2013	2	17				0.01												
	2013	2	18				0.00												-
	2013	2	19				0.12					1.0							
	2013	2	20				0.00												
V	2013	2	21		-		0.09												
	2013	2	22				0.11	N/II											
	2013	2	23				0,92												
	2013	2	24				0.26												
	2013	2	25				0,15											- 7	-
	2013	2	26			(1818)	0.10												
	2013	2	27	- TITLE OLD TO I			0,00												
	2013	2	28				0.02												
			Summary				2 05		0.0										_

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from St metric units to standard imperial units.

Record of Climatological Observations
These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

National Oceanic & Atmospheric Administration Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	**)		Evapo	ration			Soil Temp	erature (F)		
P r e					nrs. ending bservation time	at O b		4 Hour Am at obsen	ounts ending vation time		At Obs Time				4 in depth			8 in depth	
l i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F l a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2013	3	1			1	0.07												
	2013	3	2				0.00												
	2013	3	3				0.04												
	2013	3	4				0.05												
	2013	3	5				0.00												
	2013	3	6				0.07												
	2013	3	7				0.34		0.0		0								
	2013	3	8	1			0.00												
	2013	3	9			1	0.00		0.0		0								
_	2013	3	10				0.00		0.0		0								
	2013	3	11				0.02		0.0		0								
	2013	3	12				0.00												
	2013	3	13	1			0.00												
	2013	3	14				0.00				d=								
	2013	3	15																
	2013	3	16				0.11												
	2013	3	17				0.35												
	2013	3	18				0.15												_
	2013	3	19				0.03												
	2013	3	20				0.56												
	2013	3	21			1 1	0.58						V						
	2013	3	22				0.23												_
	2013	3	23				0.05												
	2013	3	24				0.00												
	2013	3	25				0.00												1
	2013	3	26				0.00												_
	2013	3	27				0.00												1
	2013	3	28				0.25												1
	2013	3	29				0.00												-
	2013	3	30				0.00		0.0		0								_
	2013	3	31				0.00		0.0		0								

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

_		1		-	Temperature			Pre	cipitation(see	e **)		Evapo	ration			Soil Temp	perature (F)		
P r e	5000	м			hrs. ending observation time	at O b	2		nounts ending vation time		At Obs Time				4 in depth	19		8 in depth	9
m i n a r y	Y e a r	o n t h	a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2013	4	1				0.00		0.0		0								
	2013	4	2				0.00		0.0		0						-		
	2013	4	3			T	0.00		0.0		0								
	2013	4	4				0.00		0.0		0	100000							
	2013	4	5				0.50			100,000									
	2013	4	6				0.45												7
0%	2013	4	7				0.43	HILIEU											
	2013	4	8				0.23												
	2013	4	9				0.00												
	2013	4	10			1	0.00												
	2013	4	11				0.14												
	2013	4	12		1		0.07			1.5									
	2013	4	13				0.29										1		
	2013	4	14		II.		0.35										1		
	2013	4	15				0.23												
	2013	4	16				0.21												
	2013	4	17				0.00										-		
	2013	4	18	100			0.00												
	2013	4	19				0.12												
	2013	4	20				0.32												
	2013	4	21				0.00												
	2013	4	22				0.01												
	2013	4	23				0.00												7
	2013	4	24				0.00												
	2013	4	25				0.00		0.0		0								
	2013	4	26				0.00		0.0		0				0.1111				
	2013	4	27				0.00												
	2013	4	28				0.01								-1				
	2013	4	29				0.08												
	2013	4	30				0.05												
			Summary			-	3.49		0.0										

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(see	9 **)		Evapo	ration			Soil Temp	erature (F)		
r e					hrs. ending observation time	at O b	2	4 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2013	5	1				0.00												
	2013	5	2				0.00												
	2013	5	3				0.00												
	2013	5	4				0.00												
- 7	2013	5	5				0.00												
	2013	5	6				0.00												
	2013	5	7				0.00												
	2013	5	8				0.00												
	2013	5	9				0.00												
	2013	5	10				0.00												
	2013	5	11				0.00												
	2013	5	12				0.00												
	2013	5	13				0.01		0.0										
	2013	5	14		1		0.03												
	2013	5	15				0.00												
	2013	5	16				0.01												
	2013	5	17				0.37												
	2013	5	18				0.08												
	2013	5	19				0.03												
	2013	5	20				0.04	=											
	2013	5	21				0.13												1
	2013	5	22				0.23												
	2013	5	23				0.90											-	
	2013	5	24				1.24												
	2013	5	25				0.17			-									
	2013	5	26			1	0.04											1000	
	2013	5	27				0.23												
	2013	5	28			1	0.38												
	2013	5	29				0.66												
	2013	5	30				0.45												
	2013	5	31				0.25										7		
_	122.2	1-	Summary				5.25		0.0					-			***	1/12	-

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

Elev: 20 ft. Lat: 46.117" N Lon: 122.894° W

National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

## **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature			Pre	cipitation(see	e **)		Evapo	ration			Soil Tem	perature (F)		
P r e	auton	M			hrs. ending observation time	at O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	i i
i m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, Ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2013	6	1				0.00		0.0		0								
	2013	6	2				0.00		0.0		0						1		
	2013	6	3				0.00		0.0		0				-		1		
	2013	6	4				0.00												
	2013	6	5				0.00										-		_
	2013	6	6				0.00		1 1										_
	2013	6	7				0.00				1								_
	2013	6	8				0.00												_
	2013	6	9				0.00										<b>-</b>		
	2013	6	10				0.00										<del>                                     </del>		
	2013	6	11				0.00			-							_		-
	2013	6	12				0.06												
	2013	6	13														1		
	2013	6	14			3							-						
	2013	6	15														-		_
	2013	6	16						0.0	-	0						<del>                                     </del>		_
	2013	6	17						0.0		0								
	2013	6	18				0.04												-
	2013	6	19				0.08		0.0		0								
	2013	6	20				0.02		50.00		183								
	2013	6	21				0.01												
	2013	6	22				0.00		0.0		0							7.17	
	2013	6	23				0.00		0.0		0								
	2013	6	24	-			0.48		0.0		0						700		
	2013	6	25				0.07												
	2013	6	26				0.03												
	2013	6	27		7	1007-21	0.02												
	2013	6	28				0.01												
	2013	6	29				0.00												
	2013	6	30				0.00												
			Summary				0.82		0.0										

The \*\* flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

### **Record of Climatological Observations**

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

	1	1			Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P r e					hrs. ending observation time	at O b		24 Hour Am at obser	nounts ending vation time		At Obs Time				4 in depth	,		8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Mir
	2013	7	1				0.00				32						1		
	2013	7	2				0.00												
	2013	7	3				0.00												
	2013	7	4				0.00												
	2013	7	5				0.00												
	2013	7	6				0.00												
	2013	7	7	- 14			0.00												
	2013	7	8				0.00												
	2013	7	9				0.00											1	
	2013	7	10				0.00												
	2013	7	11				0.00												
	2013	7	12				0.00												
	2013	7	13				0.00												
	2013	7	14				0.00												
	2013	7	15				0.00												
	2013	7	16				0.00												
	2013	7	17				0.00								3				
	2013	7	18				0.00												
	2013	7	19				0.00												
	2013	7	20				0.00			4									
	2013	7	21				0.00												
	2013	7	22				0.00												
	2013	7	23				0.00												
	2013	7	24				0.00												
	2013	7	25				0.00												
	2013	7	26				0.00			100									
-	2013	7	27				0.00		0.0		0	100							
	2013	7	28			-	0.00		0.0		0	177							
	2013	7	29				0.00		0.0		0								
	2013	7	30				0.00		0.0		0								
	2013	7	31				0.00		0.0		0								
	7.5080	1	Summary		1		0.00		0.0							-		-	

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

12					Temperature			Pre	ecipitation(se	e **)		Evapo	oration			Soil Tem	perature (F)		
P e e		м			hrs, ending observation time	at O b		24 Hour Ar at obser	nounts ending vation time	8	At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F l a	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Мах.	Min.
	2013	8	1				0.00				1								
	2013	8	2				0.00				4								
	2013	8	3				0.00												
	2013	8	4				0.00	1111					The state of the s					~	
	2013	8	5				0.00												
	2013	8	6				0.00		1 1										-
	2013	8	7				0,00												
	2013	8	8			1	0.00												
	2013	8	9				0.00												
	2013	8	10				0.00				1000						-		
	2013	8	11			·	0.00				-								
	2013	8	12				0.00												
	2013	8	13				0.00				_								
	2013	8	14				0.00				1								
	2013	8	15			† · · · · · · · ·	0.00												
	2013	8	16				0.04												
	2013	8	17				0.00				1					<del></del>			
	2013	8	18				0.00												
	2013	8	19				0.00		1	- 37.07	1								
	2013	8	20				0,00												
	2013	8	21				0.00												
	2013	8	22				0.00		0.0		0								
	2013	8	23				0.00		0.0		0		-					-	
	2013	8	24				0.00		0.0		0								
	2013	8	25				0.00		0.0		0								
	2013	8	26			1-35-1-13-1	0.05		0.0		0								
	2013	8	27				0.10										TO 100		
	2013	8	28				0.04												
	2013	8	29																
	2013	8	30				0,06		1 1							7			
	2013	8	31				0.00												
		-	Summary				0.29		0.0		1		77.77.7						

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

					Temperature (	F)		Pre	cipitation(see	∍ **)		Evapo	ration			Soil Temp	erature (F)		
r e		200			nrs. ending bservation time	at O b			nounts ending vation time	5	At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hall (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2013	9	1				0.00												
	2013	9	2				0.00												
	2013	9	3				0.21		T										
	2013	9	4				0.03			1000									
	2013	9	5				0.07												
	2013	9	6				1.80												
	2013	9	7				0.52												
	2013	9	8				0.00												
	2013	9	9				0.00												
	2013	9	10				0.00												
	2013	9	11				0.00												
	2013	9	12				0.00		0.0		0								
	2013	9	13				0.00		0.0		0								
	2013	9	14				0.00												
	2013	9	15				0.00												
	2013	9	16				0.10												
	2013	9	17				0.12									51			
	2013	9	18				0.07												
	2013	9	19				0.00												
	2013	9	20				0.00												
	2013	9	21				0.03												
	2013	9	22				0.05												
	2013	9	23				0.87												
	2013	9	24				0.25												
	2013	9	25				0.38												
	2013	9	26				0.00												
	2013	9	27				0.00												
	2013	9	28				0.63												
	2013	9	29				1.62						v		No. of the Contract of the Con				
27	2013	9	30				1.07												
		-	Summary				7.82		0.0							0	*	27	ACT VIEW

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	ecipitation(see	e **)		Evapo	oration			Soil Temp	perature (F)		
P e		м			hrs, ending observation time	at O b	2	4 Hour Ar at obser	mounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2013	10	1				0.47										_		
	2013	10	2				0.23	1,117.1											
	2013	10	3	/			0.30										_		
	2013	10	4				0.00			1177									
	2013	10	5				0.00												
	2013	10	6				0.00				-								
	2013	10	7		1		0.15												
	2013	10	8				0.12												
	2013	10	9				0.16										1		
	2013	10	10				0.00			1,1						-			
	2013	10	11				0.03												
	2013	10	12				0.02												
	2013	10	13				0.06												
	2013	10	14				0.00												
	2013	10	15				0.00		r										
	2013	10	16				0.00		1 1						77775				
	2013	10	17				0.00		1										
	2013	10	18				0.00		1		1								
	2013	10	19		17.	7	0.00												
	2013	10	20				0.00		1 1										
	2013	10	21				0.00												
	2013	10	22				0.00		0.0		0								
	2013	10	23				0.00		0.0		0							0	
	2013	10	24				0.00		0.0		0								
	2013	10	25				0.00		0.0		0								
	2013	10	26				0.00												
	2013	10	27				0.00												
	2013	10	28				0.25												
	2013	10	29				0.00												
	2013	10	30				0.00			- 551									
	2013	10	31				0.00		1 1										
			Summary				1.79		0.0										

The \*\*\* flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column Indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(see	**)		Evapo	ration			Soil Temp	erature (F)		
r e		м			nrs. ending bservation time	at O b	2		nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2013	11	1				0.02		0.0		0		1						
	2013	11	2				0.46												1
	2013	11	3				0.38												
	2013	11	4				0.09												
	2013	11	5				0.15												
	2013	11	6				0.02												
	2013	11	7				0.37												
	2013	11	8				0.52												
	2013	11	9				0.07												
	2013	11	10				0.00												
	2013	11	11				0.00												
	2013	11	12				0.01												
	2013	11	13				0.07												
	2013	11	14				0.00		0.0		0								
	2013	11	15				0.04		0.0		0								
	2013	11	16				0.64		0.0		0								
	2013	11	17				0.17		0.0		0								
	2013	11	18				0.10		0.0		0								
	2013	11	19				0.38												
	2013	11	20				0.12												
	2013	11	21				0.00		0.0		0								- 200
	2013	11	22				0.00		0.0		0								
	2013	11	23	÷			0.00		0.0		0								
	2013	11	24				0.00												
	2013	11	25				0.00												
	2013	11	26				0.00												
	2013	11	27				0.00												
	2013	11	28			1	0.00	- 3											
	2013	11	29				0.00												
	2013	11	30				0.00				T								
			Summary				3.61		0.0										

The '\*' flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

# U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

#### Record of Climatological Observations

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Generaled on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

					Temperature	(F)		Pre	ecipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P e e		м			hrs. ending bservation time	at O b	2		nounts ending vation time	Š	At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	o n t h	a y	Мах.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F l a g	Snow, ice pellets, hail (in)	F - a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2013	12	1				0.66										-		
	2013	12	2				1.19		1		-								
	2013	12	3	1			0.23		1										
	2013	12	4	-			0.00												
	2013	12	5				0.00		1 1								I STORES		
	2013	12	6				0.00		1		1			erce			-		
	2013	12	7				0.00												
	2013	12	8				0.00		0.0				-		-		1		
_	2013	12	9				0.00		0.0										
	2013	12	10	<b>—</b>			0.00		1 1		-					_			
	2013	12	11				0.02											-	
	2013	12	12				0.00				1							m:::::::::::::::::::::::::::::::::::::	
	2013	12	13				0.10												
	2013	12	14				0.01		1		1							=	- 5
	2013	12	15				0.00												
	2013	12	16				0.01											_	
	2013	12	17				0.00												
	2013	12	18				0.00												
	2013	12	19				0.06		1										
	2013	12	20				0.00												
	2013	12	21		The second		0.34												
116	2013	12	22				0.06												
	2013	12	23				0.01												
	2013	12	24																
	2013	12	25				0.00												
	2013	12	26				0.00												
	2013	12	27				0.00							<u> </u>					
	2013	12	28				0.00												
	2013	12	29				0.00												
	2013	12	30				0.00				1								
	2013	12	31				0.00		0.0		0								
			Summary				2.69		0.0		1								

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above Indicate a TRACE value was recorded.

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National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

		1	1	I	Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e		529			hrs. ending observation time	at O b		24 Hour Am at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F l a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	1	1				0.00		0.0		0								
*************	2014	1	2				0.00												
	2014	1	3				0.15												
	2014	1	4				0.00					-							
	2014	1	5				0.00												
	2014	1	6				0.00												
	2014	1	7				0.02												
	2014	1	8																
	2014	1	9				0.48												
	2014	1	10				0.12							BOYET -					
	2014	1	11				0.17												
	2014	1	12				0.72												
	2014	1	13				0.78							8)					
	2014	1	14				0.01		0.0		0								
	2014	1	15				0.00		0.0		0								
	2014	1	16		100000000000000000000000000000000000000		0.00		0.0		0								
	2014	1	17				0.00		0.0		0								
	2014	1	18				0.00												
	2014	1	19				0.00												
	2014	1	20				0.00												
	2014	1	21				0.00					5		100					
	2014	1	22				0.00												
	2014	1	23				0.00												
	2014	1	24				0.00												
	2014	1	25				0.00												
	2014	1	26				0.00												
	2014	1	27				0.00												
	2014	1	28				0.00												
	2014	1	29				0.60												
	2014	1	30				0.10												
	2014	1	31				0.16												
			Summary				3.31		0.0										

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pr	ecipitation(see	e **)		Evapo	oration			Soil Tem	perature (F)		
e L		м			hrs. ending observation time	at O b	2	4 Hour Ar at obse	mounts ending rvation time		At Obs Time				4 in depth			8 in depth	
n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	2	1				0.14										-		
	2014	2	2				0.04				_					-	-		_
	2014	2	3				0.02										1		_
	2014	2	4				0.00		1		1						+		-
	2014	2	5				0.00								-		_		
	2014	2	6				0.00										_		_
	2014	2	7						5.0	-	5								-
	2014	2	8				0.09		1 -										_
	2014	2	9				0.26		1								+		_
	2014	2	10						0.0										_
	2014	2	11																_
	2014	2	12				0.38												
	2014	2	13	·		-10V-1-207	0.06		1 1										
	2014	2	14				0.46												
	2014	2	15				0.10		1								1		
	2014	2	16				0.82												
	2014	2	17				1.00		1 1		1								
	2014	2	18		1		0.56												
	2014	2	19				1.03		1										
	2014	2	20				0.31				1								
	2014	2	21				0.30	-19											
	2014	2	22	1			0.01	-	1										
	2014	2	23				0.00												111111
	2014	2	24		1		0.00											-	
	2014	2	25				0.13		0.0		0								
	2014	2	26		1		0.00	- 2027	0.0		0								
	2014	2	27				0.00								-				
	2014	2	28				0.00												
			Summary				5.71		5.0		1								

The \*\* flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells Indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

## Record of Climatological Observations These data are quality controlled and may not be

Identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

	T				Temperature	(F)		Pre	cipitation(se	e **)	900	Evapo	ration			Soil Temp	erature (F)		
P r e					hrs. ending observation time	at O b			ounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	e a r	o n t h	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, Ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Мах.	Min.
	2014	3	1				0.00		0.0		0								
	2014	3	2				0.00		0.0		0								
	2014	3	3				0.18		0.0		0								
	2014	3	4				0.30												
	2014	3	5				0.08												
	2014	3	6				1.48										1.27		
	2014	3	7				0.93												
	2014	3	8				0.00												
	2014	3	9				0.77												
	2014	3	10				0.42												
	2014	3	11				0.22		0.0		0								
	2014	3	12				0.00		0.0		0								
	2014	3	13				0.00		0.0		0								
	2014	3	14				0.20		0.0		0								
	2014	3	15				0.07												
	2014	3	16				0.03							Layer-					
	2014	3	17				1.08												
	2014	3	18				0.00												
	2014	3	19				0.00												
	2014	3	20				0.11		0.0		0								
	2014	3	21				0.00		0.0		0								
	2014	3	22				0.00											0	1
	2014	3	23				0.00							-					
	2014	3	24				0.00												
	2014	3	25			0	0.00												
	2014	3	26				0.14												
-	2014	3	27				0.53												
	2014	3	28				0,16												
	2014	3	29				0.36	- 10											
	2014	3	30				0.69												
	2014	3	31				0.15												
		1	Summary	1	1		7.90		0.0		1								

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover; 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

					Temperature	-		Pro	ecipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P e e		м			hrs. ending observation time	at O b	2	4 Hour Ar at obse	mounts ending vation time		At Obs Time				4 in depth			8 in depth	
m n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	4	1				0.06										1		
	2014	4	2				0.31										+		
	2014	4	3				0.00										1		
	2014	4	4				0.04			====						-	1		
	2014	4	5				0.11										1		
	2014	4	6				0.13												
	2014	4	7				0.00												
	2014	4	8			150	0.00										1		
	2014	4	9				0.04												
	2014	4	10				0.00		0.0		0								
	2014	4	11				0.00		0.0		0								
	2014	4	12				0.00												
	2014	4	13		I		0.00			1913									
	2014	4	14				0.00											7-0-1	
	2014	4	15		A		0.00			-765-71									
-15	2014	4	16				0.00												
	2014	4	17				0.16								01150005				
	2014	4	18				0.73												
	2014	4	19				0.00												
	2014	4	20				0.32												
	2014	4	21				0.00												
	2014	4	22				0.33	1											
	2014	4	23				0.33												
	2014	4	24				1.07												
	2014	4	25				0.12												
	2014	4	26		Ī		0.00												
	2014	4	27				0.28												
	2014	4	28				0.20												
	2014	4	29				0.00												
-	2014	4	30	Ú_			0.00												
	MI 2-1		Summary				4.23		0.0								-		

The 's' flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 5=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

#### Record of Climatological Observations

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
r e					hrs. ending observation time	at O b	1		ounts ending vation time		At Obs Time				4 in depth	102		8 in depth	
i m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Mir
	2014	5	1				0.00		0.0		0								
	2014	5	2				0.00		0.0		0								
	2014	5	3				0.00												
	2014	5	4				0.23												
	2014	5	5				0.32												
	2014	5	6				0.02												
	2014	5	7				0.00												
	2014	5	8				0.00												
	2014	5	9				0.36												
	2014	5	10				0.29												
	2014	5	11				0.03												
	2014	5	12				0.00												
	2014	5	13				0.00												
	2014	5	14				0.00												
	2014	5	15				0.00												
	2014	5	16				0.00												
	2014	5	17				0.00												
	2014	5	18				0.12												
	2014	5	19				1.11												
	2014	5	20				0.00												
	2014	5	21				0.00												
	2014	5	22				0.00				10								ri-
	2014	5	23				0.00												
17.	2014	5	24				0.19		0.0		0								
	2014	5	25				0.00		0.0		0								
	2014	5	26				0.32		0.0		0				11				
	2014	5	27				0.02		0.0		0								
	2014	5	28				0.00		0.0		0								
	2014	5	29				0.08												
	2014	5	30				0.00												
	2014	5	31				0.00												
			Summary				3.09		0.0	1000									

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	oration	9		Soil Tem	perature (F)		
e L		м			hrs, ending observation time	at O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	6	1				0.00	•	+						_	-	_		
	2014	6	2				0.00									-	-		_
	2014	6	3				0.00				1					-	-		_
	2014	6	4				0.00				-			-		-	-		_
	2014	6	5				0.00		1		',					-			
	2014	6	6			-	0.00									-	-		_
	2014	6	7				0.00		1					-					-
	2014	6	8				0.00		1							-	-		_
	2014	6	9				0.00		1		1					-	-		-
	2014	6	10				0.00		1				7						_
	2014	6	11				0.00		1										_
	2014	6	12				0.00									-	-		
	2014	6	13				0.83		1					-		-			
	2014	6	14				0.01								_				
	2014	6	15	0.7			0.00												
	2014	6	16				0.07							1100		_			
	2014	6	17				0.10					-							
	2014	6	18				0.00												
	2014	6	19				0.00				1						-		
	2014	6	20				0.01												
- 100	2014	6	21				0.00												
	2014	6	22				0.00												
	2014	6	23				0.00								-				-
	2014	6	24				0,00												
	2014	6	25				0.00												
	2014	6	26				0.36												
	2014	6	27				0.19							X					
	2014	6	28				0,27											-	-
	2014	6	29				0.19												
	2014	6	30				0.00								Ve				
	do-		Summary				2.03		0		1								

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<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

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Record of Climatological Observations
These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e	2			24 I at o	hrs. ending observation time	at O b		24 Hour Am at observ	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2014	7	1				0.00												
	2014	7	2				0.00												
	2014	7	3				0.00												
	2014	7	4				0.00												
	2014	7	5				0.00												
	2014	7	6				0.00				100								
	2014	7	7				0.00												
	2014	7	8				0.00												
	2014	7	9				0.00												
	2014	7	10				0.00												
	2014	7	11				0.00					X							
	2014	7	12	1			0.00												
	2014	7	13				0.00												
	2014	7	14				0.02								- HOLL HOLL				
	2014	7	15				0.00												
	2014	7	16				0.00											-	
	2014	7	17	1			0,00						-						
	2014	7	18	No.			0.00												
	2014	7	19				0.00												
	2014	7	20				0.00												
	2014	7	21				0.00		1000										
	2014	7	22				0.00												_
	2014	7	23				0.00												_
	2014	7	24				0.54		0.0		0								
	2014	7	25			<u> </u>	0.05		0.0		0								-
	2014	7	26				0.00		0.0		0				2.05				
	2014	7	27				0.00		0.0		0								1
	2014	7	28				0.00		0.0		0	75							
	2014	7	29				0.00												
	2014	7	30				0.00												
	2014	7	31				0.00												
	21.88 EAR.		Summary				0.61		0.0										

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<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

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National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Record of Climatological Observations

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(see	e **)		Evapo	oration			Soil Temp	perature (F)		
r e					hrs. ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F l a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	8	1				0.00												
	2014	8	2				0.00		0.0		0								
	2014	8	3				0.00		0.0		0								
100	2014	8	4				0.00		0.0		0								
	2014	8	5		1		0.00												
	2014	8	6				0.00												
	2014	8	7				0.00												
	2014	8	8				0.00									1			
	2014	8	9				0.00												
	2014	8	10		-		0.00			7						1200			
	2014	8	11	1			0.00		1 1										
	2014	8	12	<del>                                     </del>			0.00	-											
	2014	8	13	+			0.48		1										
	2014	8	14				0.01										1		
a 1.0	2014	8	15				0.00		1		1								
	2014	8	16				0.00		0.0		0								
	2014	8	17	1			0.00	<del></del>	0.0		0								
	2014	8	18				0.00		0.0		0					1			
_	2014	8	19	+			0.00		0.0		0				117 12				
	2014	8	20				0.00		0.0	-	0								
	2014	8	21				0.00		The state of the s		1								
	2014	8	22	1			0.00												
	2014	8	23				0.00					- 1							
	2014	8	24				0.00												
	2014	8	25				0.00												
	2014	8	26				0.00												
	2014	8	27				0.00												
	2014	8	28	1			0.00		0.0		0								
	2014	8	29	1			0.00		0.0		0					1			
	2014	8	30				0.00												
	2014	8	31				0.18												
		1	Summary	-			0.67		0.0		1	-							

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National Environmental Satellite, Data, and Information Service

#### **Record of Climatological Observations**

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P e e					hrs, ending observation time	at O b	-	24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	9	1				0.00												
	2014	9	2				0.00												
	2014	9	3				0.00												
	2014	9	4				0.00								1 -				
	2014	9	5				0.00												
	2014	9	6				0.00												
	2014	9	7				0.00		1 1										
	2014	9	8				0.00												
	2014	9	9				0.00		0.0		0								
	2014	9	10				0.00		0.0		0								
	2014	9	11				0.00												
	2014	9	12				0.00			1117115									
	2014	9	13				0.00												
	2014	9	14	7.			0.00												
	2014	9	15				0.00												
	2014	9	16				0.00												
	2014	9	17				0.00												
	2014	9	18				0.01												
	2014	9	19				0.01												
	2014		20				0.00												
	2014		21				0.00												
	2014	9	22				0.00												
	2014		23				0.02		0.0		0								
	0.1110.7100		24				0.82		0.0		0								
			25	C Decrey to a			0.27		0.0		0	- 11111							
	X8(52)(5)(52)		26				0.12		0.0		0								
	2014		27				0.56												
	2014		28				0.00												
	2014		29				0.00						)						
	2014	9	30				0.07												
			Summary				1.88		0.0										

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<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

			18 17		Temperature			Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P r e		١.,			hrs. ending observation time	at O b		24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	10	1				0.05												
	2014	10	2				0.00		1 1										
	2014	10	3				0.00									<b>†</b>			
	2014	10	4				0.00				1726								- 47.
	2014	10	5				0.00												
	2014	10	6				0.00												
	2014	10	7			-	0.00												
	2014	10	8				0.00		1										
PLATE TO	2014	10	9				0.00												
	2014	10	10				0.00												
	2014	10	11				0.14		1								1		
	2014	10	12				0.02												
	2014	10	13				0.00		1 1				<u> </u>						
	2014	10	14				0.40												
	2014	10	15				0.23												
	2014	10	16				0.35		0.0		0								
	2014	10	17				0.02		0.0		0								
	2014	10	18				0.20		0.0		0								
	2014	10	19				0.00		0.0		0								
	2014	10	20				0,07		0.0		0		- F					-	
	2014	10	21		I.o.		0.05										75-52.00		
	2014	10	22				0.01												
	2014	10	23		J. T.		1.05			5									
	2014	10	24																
	2014	10	25				0.18												
	2014	10	26				0.41		0.000								2 DIETE		
	2014	10	27				0.48												
	2014	10	28				0,12											-	
	2014	10	29				0.07												
	2014	10	30				0.00						7			7-1-1-1			
	2014	10	31		L		1.25												
	-	-	Summary				5.10		0.0										

The \*\* flags in Preliminary indicate the data have not completed processing and qualifycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

					Temperature	(F)		Pre	cipitation(see	9 **)		Evapo	ration			Soil Temp	erature (F)		
P r e					nrs. ending bservation time	at O b	2		nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	e a r	M o n t	D a y	Max.	Min.	e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	11	1	<b>—</b>			0.67												
	2014	11	2				0.00	T I T I						=					
	2014	11	3				0.20												
	2014	11	4				0.63												
	2014	11	5				0.10												
	2014	11	6				0.02		0.0		0								1.40
	2014	11	7				0,19		0.0		0								
	2014	11	8				0.00		0.0		0								
	2014	11	9				0.00		0.0		0								
	2014	11	10				0.24		0.0		0								
	2014	11	11				0.00		0.0		0								
	2014	11	12				0.00		0.0		0								
	2014	11	13				0.00												
	2014	11	14																
	2014	11	15				0.00												
	2014	11	16				0.00			00						4			
	2014	11	17				0.00												
	2014	11	18				0.00												
	2014	- 11	19				0.00												
	2014	11	20				0.02												
	2014	11	21				0.01												
	2014	11	22				0.63												
	2014	11	23				0.30					7.5							

0.0

The "' flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

0.36 0.42

0.29 0.00

0.21

0.95

0.19

5.43

11

11

11

11

11

2014

2014

2014

2014

2014

2014

2014

24

25

26

27

28

29

30

Summary

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

2					Temperature		П	Pre	cipitation(se	e **)		Evapo	oration			Soil Temp	perature (F)		
r e		м		at c	hrs. ending observation time	at O b	3	24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m in a r y	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2014	12	1				0,00												
7.0	2014	12	2				0.00												
	2014	12	3				0,00												
	2014	12	4				0,00					- 12			/ C PO 211 P				
	2014	12	5				0.11												
	2014	12	6				0.15												-
	2014	12	7				0.22				1								
	2014	12	8				0.00				1						1		
	2014	12	9				0106												
	2014	12	10				0.45		1			ACCUSED IN							
	2014	12	11				0.69		1										
	2014	12	12				0.34												
	2014	12	13				0.00												
	2014	12	14				0.00												
	2014	12	15				0,00												
	2014	12	16				0.00												1
	2014	12	17				0.01							777777			5		
	2014	12	18				0.08												
	2014	12	19				0.36												
	2014	12	20				80.0		0.0		0								
	2014	12	21				1.57		0.0		0								
	2014	12	22				0.20		0.0		0								
1000	2014	12	23				0.00		0.0		0								
	2014	12	24				0.38		0.0		0								
	2014	12	25				0.20												
	2014	12	26				0.00												
	2014	12	27				0.01												
	2014	12	28			- V	0.72												
	2014	12	29				0.10												
	2014	12	30				0.00												7
	2014	12	31				0.00												
			Summary				5.73		0.0										

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column Indicate a multiday total, accumulated since last measurement, is being used.

These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

National Oceanic & Atmospheric Administration Elev: 20 ft. Lat: 46.117° N Lon: 122.894" W

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Old Market					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e		221			hrs, ending bservation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F   a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
_	2015	1	1				0.00												
	2015	1	2	-			0.00												
	2015	1	3				0.00												
-	2015	1	4				0.27								-				
	2015	1	5				2.10									T. C.			
	2015	1	6				0.22												
	2015	1	7				0.00												
	2015	1	8				0.00												
	2015	1	9	1	t		0.00												
	2015	1	10				0.00												
	2015	11	11	1			0.04												
	2015	1	12				0.00												
	2015	1	13			74	0.00		0.0		0								
	2015	1	14				0.00		0.0		0								
	2015	1	15	1			0.00		0.0		0								
	2015	1	16				0.49		0.0		0								
	2015	1	17				0.01												
	2015	1	18				1.34												
	2015	1	19	1	1	1	0.49						411						
	2015	1	20				0.10										025		
	2015	1	21				0.00												
	2015	1	22				0.00												
	2015	1	23				0.00												
	2015	1	24				0.17												
	2015	1	25				0.00												
_	2015	1	26				0.00												
	2015	1	27	- 0			0.00												
	2015	1	28				0.00												
	2015	1	29				0.00		The state of										
	2015	1	30				0.00												
	2015	1	31				0.00												
	1	1	Summary				5.23		0.0		1		Al .						

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>&</sup>quot;Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

#### Record of Climatological Observations

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Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

			-		Temperature	(F)		Pre	ecipitation(se	9**)		Evapo		on Time Tem	•		perature (F)		
P e e			3		hrs. ending observation time	at O b		24 Hour Ar	nounts ending vation time		At Obs Time	Lvapo	ration		4 in depth	Son rem	perature (F)	8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i	Rain, melted snow, etc. (in)	F - a g	Snow, ice pellets, hail (in)	F I B	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
_	2015	2	1	-		n	0.01				-								
_	2015	2	2			-	0.15												
	2015	2	3				0.19	-	-	_									
	2015	2	4				0.05			_	1	$\vdash$	_	-					
	2015	2	5	_		-	0.15		0.0		0								
	2015	2	6				0.64		0.0		0								
	2015	2	7				0.71		0.0		0						-		
	2015	2	8	_			1.10		0.0		0							-	
	2015	2	9				0.23	10.20-112-2	0.0		0						-		
	2015	2	10				0.33				-								
	2015	2	11				0.00												
	2015	2	12				0.00												
	2015	2	13				0.00						-11 - 111-						_
	2015	2	14				0.00												
	2015	2	15				0.00						-		127-13				_
	2015	2	16				0.00												
	2015	2	17				0.00												
	2015	2	18				0.00												
	2015	2	19				0.00				152								-
	2015	2	20																
	2015	2	21				0.00						9 00					22-1-1	
	2015	2	22				0.00												
	2015	2	23				0.00												
	2015	2	24				0.00												
	2015	2	25				0.00												
	2015	2	26		De Alice		0.07												

0.0

0.0

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

0.32

0.30

4.25

2015

2015

27

28

Summary

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

Record of Climatological Observations
These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

National Centers for Environmental Information

151 Patton Avenue

Asheville, North Carolina 28801

ter s					Temperature	(F)		Pre	cipitation(see	e **)		Evapo	ration			Soil Temp	erature (F)		
P r e					hrs. ending bservation time	at O b		24 Hour An at obser	ounts ending vation time	8	At Obs Time				4 in depth			8 in depth	
i m i n a r	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F 1 a 9	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min
	2015	3	1				0.00		0.0		0					1			
	2015	3	2				0.03	()	0.0		0								
	2015	3	3				0.00		0.0		0								
	2015	3	4				0.00		0.0		0								
	2015	3	5				0.00			4									h mille
- 71	2015	3	6				0.00												
	2015	3	7				0.00												
	2015	3	8				0.00												
	2015	3	9				0.00												
	2015	3	10				0.00												
	2015	3	11				0.04												
77	2015	3	12				0.11												
	2015	3	13				0.00				100.00								
	2015	3	14				0.37												
-	2015	3	15				1.32												
	2015	3	16				0.62												
	2015	3	17				0.00												
	2015	3	18				0.10												
	2015	3	19				0.00												
	2015	3	20				0.00												
	2015	3	21				0.02												
	2015	3	22				0.02												
	2015	3	23				0.02												
	2015	3	24				0.86												
	2015	3	25				0.20												
	2015	3	26				0.01												
	2015	3	27				0.00												
	2015	3	28				0.12												
	2015	3	29				0.01										1		
	2015	3	30				0.00												
	2015	3	31				0.01												
			Summary				3.86		0.0							-	-		-

The "" flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

#### U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

#### **Record of Climatological Observations**

These data are quality controlled and may not be Asheville, North Carolina 28801

identical to the original observations. Generated on 10/07/2015

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

National Centers for Environmental Information

151 Patton Avenue

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

					Temperature (	F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	perature (F)		
P e e		м			hrs, ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r	Y e a r	n t h	D a y	Мах.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Mir
	2015	4	1				0.17				1								
	2015	4	2				0.18	/											
	2015	4	3				0.00												
- 1	2015	4	4				0.13			7									
1	2015	4	5				0.00												
	2015	4	6				0.04												
1	2015	4	7				0.00												
	2015	4	8				0.03												
	2015	4	9				0.00		0.0		0								
	2015	4	10				0.00		0.0		0								
3	2015	4	11				0.13												
	2015	4	12		12.		0.19												
1	2015	4	13				0.00				P. C			· COLLEGE					
1	2015	4	14				0.31												
1	2015	4	15				0.05												
	2015	4	16				0.00												
1	2015	4	17				0.00												
1	2015	4	18		J		0.00		0.0		0								
1	2015	4	19				0.00		0.0		0								
1	2015	4	20				0.00		0.0		0					= //			
	2015	4	21				0.00												
1	2015	4	22			1	0.00												
	2015	4	23				0.00												
1	2015	4	24				0.21												
	2015	4	25				0.37												
	2015	4	26				0.00												
	2015	4	27		100		0.01												
	2015	4	28				0.00												
	2015	4	29			-2	0.03												
2	2015	4	30				0.11												
			Summary				1.96		0.0										

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

#### **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

National Centers for Environmental Information

151 Patton Avenue

	I				Temperature	(F)	Precipitation(see **)					Evapo	ration		of the last of the	Soil Tem	erature (F)		
P r e		м			hrs. ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth	
m i n a r	e a r	o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2015	5	1				0.00												
	2015	5	2			3 Land 1.1 Land 1.2	0.00												4
	2015	5	3				0.00												
	2015	5	4				0.00				7								
	2015	5	5				0.00												
	2015	5	6				0.09												
	2015	5	7				0.00		1 1										
	2015	5	8				0.00												
	2015	5	9				0.00			-									
	2015	5	10				0.00												
	2015	5	11				0.01												
	2015	5	12				0.50		1 1										- 55
	2015	5	13				0.16												
	2015	5	14				0.03												
	2015	5	15				0.00												
	2015	5	16				0.00												
	2015	5	17				0.00												
	2015	5	18				0.00												
	2015	5	19		i		0.00												
	2015	5	20				0.00												
	2015	5	21				0.00												
	2015	5	22				0.00												
	2015	5	23				0.00												
	2015	5	24				0.00												
	2015	5	25				0.00												
	2015	5	26				0.00												
	2015	5	27				0.00												
	2015	5	28				0.00		0.0		0		10						
	2015	5	29				0.00		0.0		0								
	2015	5	30				0.00												
_	2015	5	31				0.00												
			Summary				0.79		0.0										

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\*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used. Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations. Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

			1		Temperature (	CONTRACT CON	Precipitation(see **)						oration	Soil Temperature (F)						
e e		м			hrs. ending observation time	at O b		4 Hour Ar at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth		
m i n a r y	Y e a r	n t h	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	Flag	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.	
	2015	6	1				0.00		1							-				
	2015	6	2				0.54				+						-			
	2015	6	3				0.17				+									
	2015	6	4				0.02			U ESATE SE				_						
	2015	6	5				0.00													
	2015	6	6				0.00				_									
	2015	6	7				0.00				_									
	2015	6	8				0.00													
	2015	6	9			111077	0.00		1											
	2015	6	10				0.00													
	2015	6	11				0.00	11011111												
	2015	6	12				0.00													
	2015	6	13				0.00													
	2015	6	14				0.00		1 1									-		
	2015	6	15	-			0.00													
	2015	6	16				0.00											A		
	2015	6	17				0.00			-										
	2015	6	18				0.00													
	2015	6	19				0.00		1 1							-				
	2015	6	20				0.00													
	2015	6	21				0.00	175											-	
	2015	6	22				0.00													
		-	23				0.00													
			24				0.00												T	
_			25				0.00													
			26	17 15 15 15 15			0.00													
			27				0.00												7	
	and the same of th		28				0.00													
			29				0.00													
	2015	6	30	= 1			0.00													

The "" flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column Indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894° W

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evaporation		Soil Temperature (F)						
P r e					hrs. ending observation time	at O b			nounts ending vation time		At Obs Time				4 in depth			8 in depth		
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o	Rain, melted snow, etc. (in)	F a g	Snow, ice pellets, hail (in)	F l a g	Snow, ice pellets, hall, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.	
	2015	7	1				0.00													
	2015	7	2				0.00													
	2015	7	3				0.00													
	2015	7	4				0.00													
	2015	7	5			- 422	0.00													
	2015	7	6				0.00													
	2015	7	7				0.00													
	2015	7	8				0.00													
	2015	7	9				0.00													
	2015	7	10				0.00											/		
	2015	7	11				0.01													
	2015	7	12				0.03													
	2015	7	13				0.00													
	2015	7	14				0.00		1											
	2015	7	15				0.00													
	2015	7	16				0.00													
	2015	7	17				0.00													
	2015	7	18				0.00													
	2015	7	19				0.00													
	2015	7	20				0.00													
	2015	7	21				0.00													
170	2015	7	22				0.00													
	2015	7	23				0.00													
	2015	7	24				0.00													
	2015	7	25				0.01													
	2015	7	26				0.06				- 7-1									
	2015	7	27				0.07													
	2015	7	28				0.00												-	
	2015	7	29				0.00													
	2015	7	30																	
	2015	7	31				0.00													
			Summary				0.18		0											

The \*\*\* flags in Preliminary indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

<sup>&</sup>quot;A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

# U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service

#### Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Elev: 20 ft. Lat: 46.117" N Lon: 122.894" W

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature (	F)		Pre	cipitation(se	e **)		Evapo	ration	Soil Temperature (F)					
r e					nrs. ending bservation time	at O b	2	4 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Мах.	Min.	Ground Cover (see *)	Max.	Min
	2015	8	1				0.00												
	2015	8	2	-			0.00												
	2015	8	3				0.00												
	2015	8	4				0.00												
	2015	8	5				0.00												
	2015	8	6				0.00		1										
211	2015	8	7				0.00		1 1										
	2015	8	8				0.00									-			
	2015	8	9				0.00		1		-								
	2015	8	10				0.00		<del>                                     </del>										
_	2015	8	11				0.00		1		-					-			$\overline{}$
_	2015	8	12				0.00		1										
	2015	8	13	<b>—</b>			0.00		1										
_	2015	8	14				0.00		1 1										
	2015	8	15	-			0.02		1		-				11111111111				
	2015	8	16				0.00												
-	2015	8	17				0.00				-								
	2015	8	18				0.00												
	2015	8	19	1 11 11 11 11 11 11 11 11 11 11 11 11 1			0.00												
	2015	8	20		1.		0,00												
	2015	8	21				0.00		1 1 1 1 1 1		1								
	2015	8	22				0.00												
	2015	8	23				0.00												
	2015	8	24				0.00												
	2015	8	25				0.00												
	2015	8	26				0.00												
	2015	8	27				0.00		0.0		0					1			
-	2015	8	28						0.0		0								
	2015	8	29						0.0		0								
	2015	8	30																
	2015	8	31																
			Summary				0.02		0.0							^			

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<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass mulch; 8=Bare mulch; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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National Oceanic & Atmospheric Administration

Elev: 20 ft. Lat: 46.117° N Lon: 122.894° W

National Environmental Satellite, Data, and Information Service

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND:USW00024223

#### **Record of Climatological Observations**

These data are quality controlled and may not be identical to the original observations.

Generated on 10/07/2015

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

					Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration	Soil Temperature (F)						
P e		١			hrs. ending observation time	at O b	-	24 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth		
i m i n a r y	Y e a r	M o n t	D a y	Max.	Min.	s e r v a t i	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F l a g	Snow, ice pellets, hail, ice on ground (in)	Movement	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.	
	2015	9	1				0.00													
	2015	9	2																	
	2015	9	3																	
	2015	9	4										- 144 SHI -							
	2015	9	5																	
	2015	9	6														1			
	2015	9	7														1			
	2015	9	8				0.00										1			
	2015	9	9				0.00													
	2015	9	10				0.00													
	2015	9	11																	
	2015	9	12				0.00													
	2015	9	13				0.00				1									
	2015	9	14				0.00													
	2015	9	15				0.00													
	2015	9	16				0.00													
	2015	9	17																	
	2015	9	18																	
	2015	9	19																	
	2015	9	20																	
	2015	9	21																	
	2015	9	22																	
	2015	9	23																	
	2015	9	24				0.00													
	2015	9	25																	
	2015	9	26											R	31602-01-1					
	2015	9	27				0.00													
	2015	9	28				0.00													
	2015	9	29				0.00													
	2015	9	30																	
	-		Summary				0.00		0											

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\*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

<sup>&</sup>quot;s" This data value failed one of NCDC's quality control tests.

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National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

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National Oceanic & Atmospheric Administration

Station: KELSO SOUTHWEST REGIONAL AIRPORT, WA US GHCND: USW00024223

	10000				Temperature	(F)		Pre	cipitation(se	e **)		Evapo	ration			Soil Temp	erature (F)		
P e i		м		24 I at o	hrs. ending observation time	at O b	2	4 Hour An at obser	nounts ending vation time		At Obs Time				4 in depth			8 in depth	
i m i n a r	Y e a r	o n t	D a y	Max.	Min.	s e r v a t i o n	Rain, melted snow, etc. (in)	F I a g	Snow, ice pellets, hail (in)	F I a g	Snow, ice pellets, hail, ice on ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
	2015	10	1				0.00												
	2015	10	2				0.00		0.0		0						1		
	2015	10	3			1													
	2015	10	4				0.00												
	2015	10	5				0.00		1										
	2015	10	6				+												
	2015	10	7					D-74-111-0	+ +										
	2015	10	8						<del>                                     </del>								1		
	2015	10	9			<del>                                     </del>			_							-			-
	2015	10	10			<del> </del>			1							-			
	2015	10	11			<del>                                     </del>			1							-			
	2015	10	12			<del></del>	$\rightarrow$		+		+					<del>                                     </del>			_
- 1	2015	10	13			<b>-</b>	+		1		1	_				<u> </u>	-		
	2015	10	14			-			1		+						-		_
-	2015	10	15		6.300	-	-		+							-	-		-
	2015	10	16						+		+						-		
	2015	10	17				-		1								_		
	2015	10	18			+	_		1		1	_				-	-		-
	2015	10	19			<del></del>			+										
	2015	10	20			<del> </del>	-									-		-	
	2015	10	21			<del>†</del>					1		-						
	2015	10	22			-					1								
	2015	10	23			1	-		+ +		1						-		
	2015	10	24	-			-				-				a de la composición della comp				
	2015	10	25			<del>                                     </del>	+								-				
	2015	10	26			-				-	-							7	
	2015	10	27			<del> </del>			<del>                                     </del>		-								
	2015	10	28								_				-				
	2015	10	29		-	-	-	-	+ -		-						-		
	2015	10	30						-					-		-	-		_
	2015	10	31			-	+		-										
	2010	110	Summary				0.00		0.0		-						1		

The \*\* flags in Preliminary Indicate the data have not completed processing and qualitycontrol and may not be identical to the original observation Empty, or blank, cells indicate that a data observation was not reported.

<sup>\*</sup>Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass mulck; 8=Bare mulck; 0=Unknown

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<sup>&</sup>quot;T" values in the Precipitation category above indicate a TRACE value was recorded.

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